



# Our **Freight Wagons**

**Customer service for  
new customers:**

Whatever your question, our customer service advisers are available to give you the help you need.

**We're here to help:**

How to contact our  
customer service team:

**Tel.: 0180 5 331050**

**(Calls are charged at 14 cents/min.  
from a Deutsche Telekom landline)**

**[neukundenservice@dbschenker.eu](mailto:neukundenservice@dbschenker.eu)**

# Contents

|   |     |
|---|-----|
| We're competitive because we deliver  | 4   |
| Ordering wagons   | 6   |
| Renting freight wagons  | 8   |
| Loading and unloading times and demurrage charges   | 9   |
| Privately owned wagons  | 9   |
| Loading gauges  | 10  |
| Material handling equipment and loading logistics   | 11  |
| The freight wagon's "ID Card"   | 12  |
| Freight wagon deployment  | 13  |
| Other important freight wagon inscriptions and symbols  | 14  |
| Codes identifying the country in which freight wagons are registered                                | 16  |
| Freight wagon classification codes ("class" and "index" letters)                                    | 18  |
| Classification codes for articulated wagons and multiple wagons                                     | 24  |
| Meaning of national code letters used on freight wagons operated by DB Schenker Rail Deutschland AG | 27  |
| Wagon type numbers and their meanings   | 28  |
| <b>E</b> Open wagons  | 30  |
| <b>F</b> Open hopper wagons   | 36  |
| <b>F</b> Tipping hopper wagons  | 38  |
| <b>F</b> Bogie open hopper wagons   | 40  |
| <b>H</b> High-capacity sliding-wall covered wagons  | 46  |
| <b>H</b> Four-part, covered, double-deck car transporter wagons                                     | 58  |
| <b>K</b> Flat wagons  | 60  |
| <b>L</b> Car transporter units  | 64  |
| <b>R</b> Bogie flat wagons  | 66  |
| <b>S</b> Six-axle bogie flat wagons   | 80  |
| <b>S</b> Trestle wagons for transporting metal plate  | 82  |
| <b>S</b> Bogie coil wagons  | 84  |
| <b>S</b> Bogie flat wagons with cargo ratchet straps  | 90  |
| <b>T</b> Bogie wagons with fully opening roller roofs   | 92  |
| <b>T</b> Covered wagons for agricultural goods  | 94  |
| <b>T</b> Bogie covered hopper wagons  | 96  |
| Overview of wagon classes used in intermodal transport  | 102 |
| Expertise in intermodal transport – Container wagons  | 106 |
| Expertise in intermodal transport – Loading units   | 110 |
| DB Schenker BTT tank containers   | 112 |



# We're competitive because we deliver

**As Europe's leading rail freight transport and logistics provider, DB Schenker Rail offers a comprehensive portfolio of punctual, reliable, safe and eco-friendly rail freight services.**

DB Schenker can organise transport chains that meet your specific freight shipment needs. Customised national, European or global logistics solutions from a single source. DB Schenker's success is built on quality of service, customer focus, logistics know-how and international expertise.

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### **First-class services and total customer focus**

The quality of our rail freight services is being continuously improved through our centralised job management system in conjunction with seamless information transfer in our Customer Service Centre. The Customer Service Centre and our accounts managers, who maintain personal contact to our customers, are the foundation of our total customer focus. The Customer Service Centre is available to handle any questions that you may have concerning rail freight wagons.



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### **Premium logistics services**

We create total solutions that satisfy your transport and logistics requirements, ranging from the analysis of transport processes in your company to freight tracking and tracing or the use of our own warehousing and logistics centres for storage, order picking and related services.

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### **Strong international presence**

Europe's railway network is more than 200,000 kilometres long, extending from Portugal to Russia, from the Arctic Circle to the Bosphorus. Our globally active customers demand full-service, cross-border logistics solutions. As an international transport and logistics service provider we have taken up the challenge of fully meeting our customers' expectations. No matter what your logistics requirements are: single wagonload consignments, block trains or unusual loads, whether you need to move a large transformer weighing several hundreds of tonnes or pipes several hundred metres in length, whether you need to transport hot coils or cold food – DB Schenker Rail is the logistics partner you can rely on for your international rail freight needs.

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### **High capacity and great flexibility**

We own over 100,000 freight wagons. Open and covered wagons, flat wagons, wagons with opening roofs and other special-purpose wagons – all designed to make loading and unloading as efficient as possible. And we're flexible, too. We can handle the most unusual or difficult cargoes, no matter what the quantity or type of goods you need transported.

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### **Investing in innovation**

Our customers require high-quality, specialised transport services. That is why we are constantly investing in our fleet. The modernisation and expansion of our vehicle pool – by purchasing new stock, converting existing stock or through leasing agreements – is carried out in close collaboration with our customers to ensure that we continue to meet the demands of today's markets.

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### **Ensuring efficient and cost-effective freight transport**

By selecting the right freight wagon for your needs and by making optimal use of the available capacity and wagon loading limits, we can ensure the most cost-effective means of transporting your goods. Automatic or mechanised loading and unloading of the vehicles simplifies and speeds up freight handling procedures. This brochure introduces you to our fleet of freight wagons and explains their many and varied features. You will also become acquainted with a number of more specialised aspects, including the coded markings used on the wagons and details about cross-border, through-freight services.



## Ordering wagons

**Our goal is to find the best wagon for your freight forwarding needs. Your order and any questions regarding it are dealt with by the service team at our Customer Service Centre in Duisburg with responsibility for your dispatching station. New customers should submit their initial “Request for wagonload freight services” via the DB Schenker website at [www.rail.dbschenker.de](http://www.rail.dbschenker.de). New customers can also contact our support staff to discuss their rail freight requirements by calling 0180 5 331050 (calls charged at 14 cents/min. from a Deutsche Telekom landline). New customers wishing to contact us via e-mail should write to [neukundenservice@dbschenker.eu](mailto:neukundenservice@dbschenker.eu).**



### Whenever possible, please try to:

order your freight wagon(s) as soon as possible, but by no later than 10 am (weekdays excl. Saturdays) on the day before loading. To ensure that wagons can be made available to you in good time, you should, ideally, place your order two to three days before the intended loading date.

Our aim is provide you with the most suitable type of wagon for you particular cargo when you need it. To do this, we need you to provide us with the following information:

- Loading date and time of delivery
- Loading site (location where freight wagon is required)
- Number of freight wagons and information about the type of wagon required
- Nature of goods to be transported
- Weight of consignment (if relevant: number, length and weight of individual units)
- Receiving station
- For international consignments, country of destination and preferred route
- Mode of transport.

### Unusual doesn't mean impossible

Examples of unusual consignments are those that exceed the permissible loading gauge (see loading gauge diagram on page 10) or the permissible weight per metre. As special arrangements have to be made in these cases, you are requested to contact your account manager or the relevant service team at the Customer Service Centre at least three weeks before the planned date of departure. Once preparations have been completed, you will be notified by a member of the service team and you can then order your wagons as needed.

Your account manager or the service team at the Customer Service Centre will notify you about any relevant transport issues and any special requirements when loading or unloading your wagons, including issues that may arise with foreign rail freight carriers.



# Renting freight wagons

**Depending on availability, freight wagons can be rented within Germany, for example, to overcome temporary supply shortfalls. Rental agreements and operational aspects are dealt with professionally by the fleet management team at our Customer Service Centre.**

Available freight wagons can be rented in accordance with the following terms and conditions:

- Rental agreements can be concluded for periods of up to three months (extensions may be granted after review and approval). This enables us to be flexible in supplying wagons and allows us to rent out wagons that have just become available. Rent is always charged from the first day of the contractually agreed rental period (no retroactive rental charges are levied).
- For each rental (without pre-carriage or on-carriage) a flat rate is charged for supplying the wagons to the freight transport location or track area.
- If the freight wagon is not returned on the due date a charge shall be payable to DB Schenker Rail for each subsequent calendar day the wagon is overdue. The amount chargeable shall be calculated in accordance with the demurrage rates set out in the document "Prices and Terms of DB Schenker Rail AG" as amended from time to time. No demurrage is payable if the party renting the wagons has made the wagons available for collection on the agreed date, but the wagons are collected by DB Schenker Rail after said date.

- Freight wagons that have been ordered in accordance with a legally binding individual rental agreement may be cancelled at no charge by the ordering party no later than 10 am on the working day (Saturdays excluded) preceding the start of the rental period. If the order is cancelled after this time, but prior to the start of the rental period, the aforementioned flat rate for supplying the wagons shall be due.

Any questions regarding the renting of freight wagons should be addressed to the freight wagon management team at our Customer Service Centre by calling **+49 (0)203 454-2974**.





# Loading and unloading times and demurrage charges

**We grant a standard loading or unloading time of eight hours. However, non-standard loading time agreements can be arranged with customers individually.**

## **Tailored to your needs**

If the agreed loading and unloading times are exceeded, the customer shall be liable for demurrage charged in accordance with the document “Prices and Terms of DB Schenker Rail AG” as amended from time to time.

# Privately owned wagons

## **A special privilege**

A fleet of more than 100,000 DB Schenker Rail freight wagons – ranging from open wagons to special-purpose wagons and all designed to make loading and unloading as efficient as possible – is available to transport your goods to the desired destinations. We also permit our customers to use their own freight wagons, which may, for example, have been customised for a particular type of cargo. However, these privately owned wagons can only be used if their keeper is a party to the General Contract of Use

for Wagons (GCU) or if the wagons provided conform to GCU requirements.

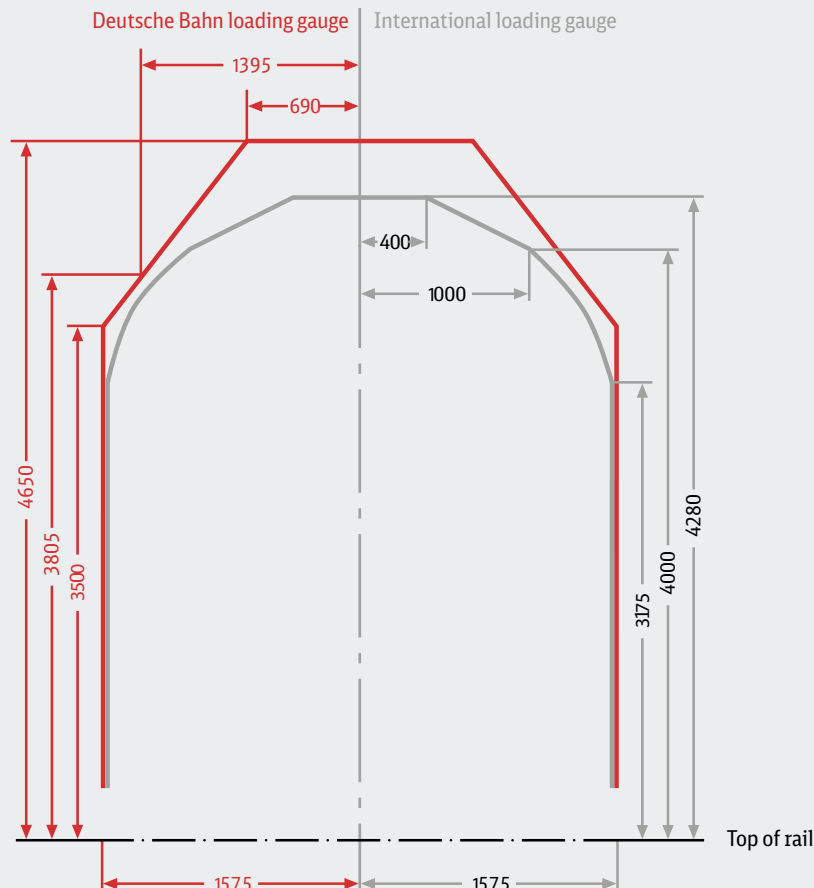
The prices for hauling these wagons when running under load or when running empty are listed in our “Prices and Terms of DB Schenker Rail AG – Provisions for Privately Owned Freight Wagons”. You can also contact us if you require stabling facilities for your own or for rented freight wagons. We can arrange to have the vehicles stabled on tracks operated by Deutsche Bahn AG and can organise the requisite shunting services.

# Loading gauges

**The loading gauge is the set of dimensions that a load must not exceed while taking account of the restrictions specified in the UIC Loading Guidelines – Volume 1, Tables 21 and 23. Wagons must always be loaded in such a way that they do not violate the smallest of the loading gauges specified by the participating train operating companies (TOCs)/railway undertakings. If the relevant loading gauge is exceeded, the consignment is classified as an exceptional or “out-of-gauge” consignment.**

The loading gauges are depicted in Table 1 of Volume 1 of the UIC Loading Guidelines (“Principles”). The Deutsche Bahn loading gauge is also used in the following countries: Albania, Austria, Bosnia Herzegovina, Bulgaria, Croatia, the Czech Republic, Denmark, Greece, Hungary, Iraq, Lithuania, Luxembourg, Macedonia, the Netherlands, Poland, Romania, Slovakia, Slovenia, Syria and Turkey. A number of countries, including France, Italy, Portugal, Spain and Switzerland have smaller loading gauges and this must be taken into account as described above when planning cross-border rail freight shipments involving these countries. The international loading gauge is applicable for all train operating companies/railway undertakings.<sup>1)</sup> For more detailed information, please refer to the UIC Loading Guidelines, Volume 1, Tables 1 and 2 (“Principles”).

<sup>1)</sup> with the exception of those in Great Britain and Iran





# Material handling equipment and loading logistics

## Pallet service

DB Intermodal Services GmbH operates the largest Euro-pallet pool in Germany and a pallet exchange system for national and international freight forwarding. With its specialist know-how and expertise, DB Intermodal Services GmbH can deliver efficient, affordable solutions no matter how complex your freight transport needs.

Empty exchangeable pallets can be provided to you and collected from you within extremely short turnaround times. A central, customer-specific pallet account is managed on your behalf and free of charge.

Our just-in-time pallet delivery and recovery system allows you four to eight weeks to rebalance your pallet account with outgoing pallets immediately credited to your account. This significantly reduces the number of pallets that you need to own and manage.

In addition to the pallet exchange system, DB Intermodal Services GmbH

also provides pallet sales, pallet rental and pallet repair services.

As a member of the UIC Standards Committee, the European Pallet Association (EPAL) and the German EPAL National Committee, DB Intermodal Services can guarantee the quality of its Euro-pallet equipment. Practically all standardised pallets are stocked: Dusseldorf pallets, industrial pallets, half pallets, display pallets, drum pallets, folding box pallets, plastic pallets and special pallets. DB Intermodal Services also supplies pallet collars, pallet lids and fruit and vegetable crates. As an additional specialist service, the company also develops product-specific and/or customer-specific pallets and crating units.

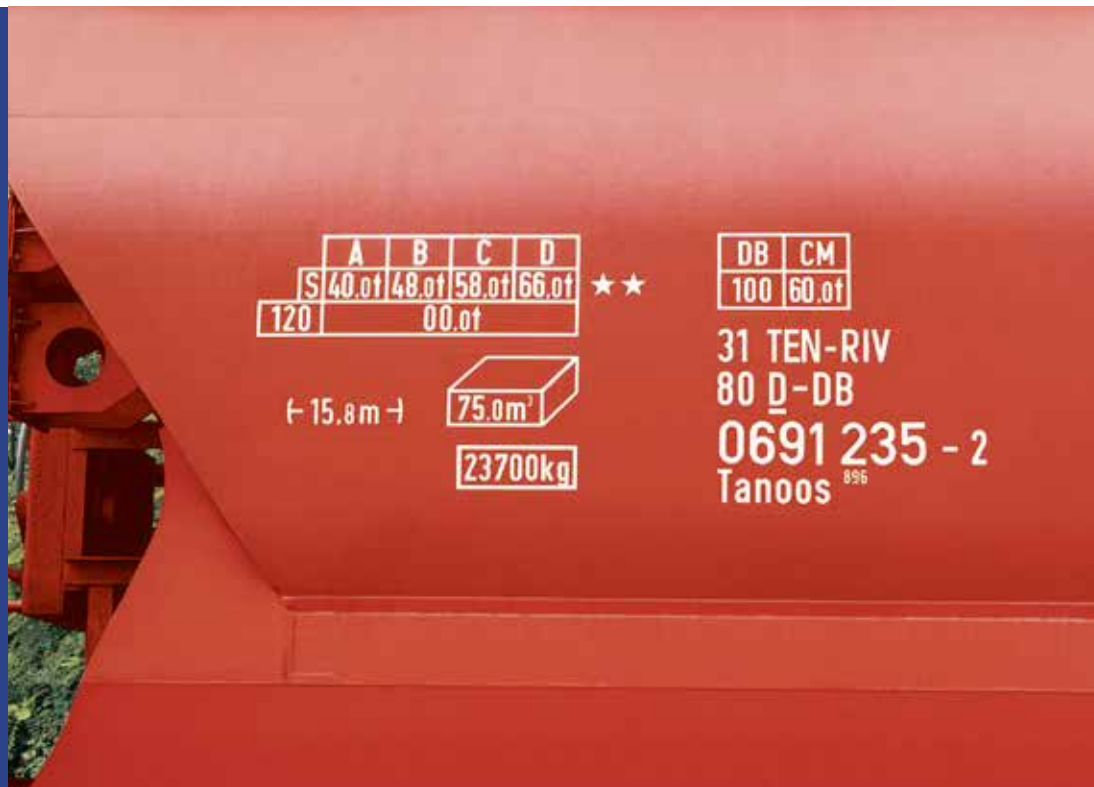
## Wagon sheets / Tarpaulin rental

Wagon sheets or tarps used by other train operators to protect freight during transport are recovered by DB Intermodal Services GmbH in Germany after consultation with the receiving party (consignee). DB Intermodal Services GmbH can also provide you with wagon sheets/tarpaulins for use in Germany. In addition to all the standard sizes and qualities, customised sheeting to meet particular requirements can be supplied at short notice.

For a quotation covering your specific needs, please contact a professional customer adviser at:

**DB Intermodal Services GmbH**  
**Lademittelservice**  
**Rheinstraße 4L**  
**55116 Mainz**  
**Germany**  
**Tel.: +49 (0)6131 15-3551**  
**Fax: +49 (0)6131 15-3559**

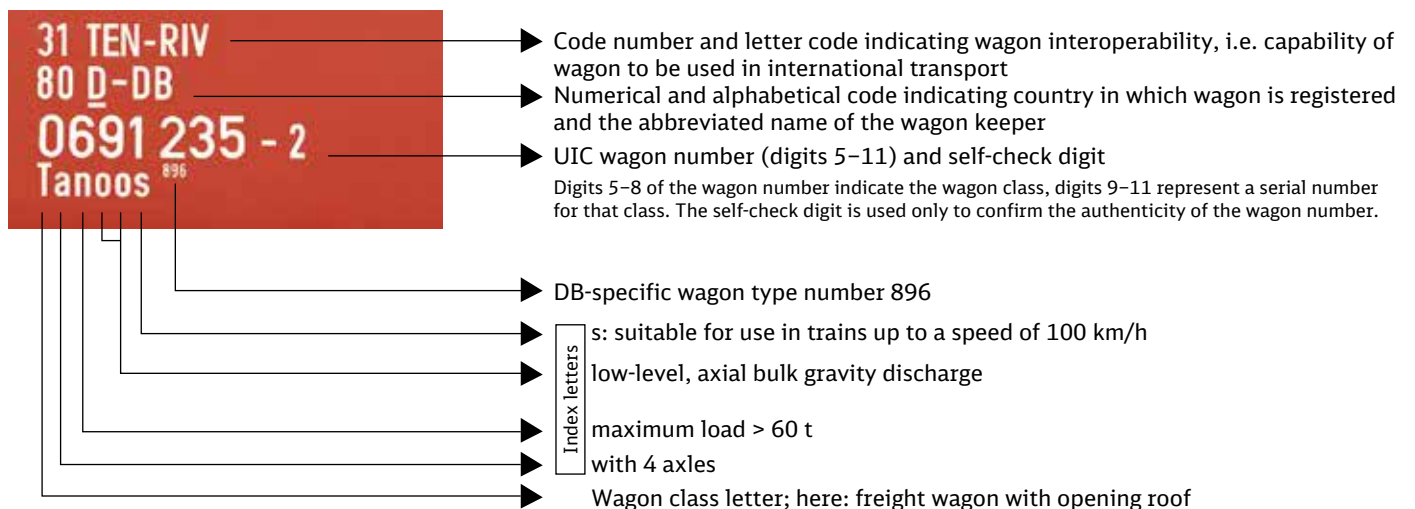
The markings on a freight wagon provide information on the wagon's most important technical characteristics. As a rule, the markings are applied to the left half of the wagon's side walls. Markings on wagons without walls are found on the sole-bar.



# The freight wagon “ID Card”

Important information that you and others need to know.

The markings provide the following information:





# Freight wagon deployment

The inscriptions (letters and digits) on the wagon indicate the suitability of a freight wagon for use in international transport. Up until recently, it was typically the letters “RIV” that showed that a rail freight wagon was entitled to move freely on lines in any country with a track gauge of 1435 mm (except Great Britain). The RIV regulations (Regolamento Internazionale Veicoli) governed the reciprocal use of rail wagons in international traffic particularly in western and central Europe. Since the end of the RIV regulations, “RIV” has been replaced by the abbreviation “TEN”, which since January 2007 has been marked on all TSI-approved freight wagons.

The abbreviation TEN stands for “Trans-European Networks”, which is defined in European law by the “Technical specification of interoperability relating to the subsystem Rolling Stock – Freight Wagons” and the “Technical specification of interoperability relating to the subsystem Traffic Operation and Management”.

Wagons bearing the RIV mark are protected by a grandfathering clause that permits their continued use.

The use of freight wagons on east European and Asian railways (OSJD railways) is governed by the PGW regulations (“Prawila polsowanija grusowymi wagonami w meshdunarodnom soobshenii”; “Rules of Reciprocal Use of Wagons in International Traffic”) (formerly: PPW).

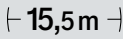
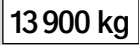
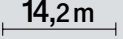
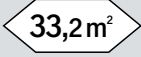
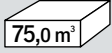
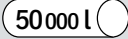

The alphabetical and numerical codes indicate

- whether the wagon can be used for the free movement of goods in international traffic (RIV, TEN, PGW), or whether it can be used only on the basis of special agreements or used only within the internal market;
- whether the freight wagon was previously owned by a national railway operator or is privately owned (note: this rule is to be revoked at some future date); or
- whether the wagon is suitable for only a particular track gauge or for a number of different track gauges.

In addition, freight wagons are suitable for international use if their use in a particular rail network or on a particular line has been the subject of a bilateral agreement.

Any questions you may have regarding the use of wagons for international freight forwarding can be addressed to our customer advisers at the Customer Service Centre.

# Other important freight wagon inscriptions and symbols

| No.                              | Inscriptions and symbols   | Meaning   |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
|----------------------------------|--|---|------|--------|--------|--------|------|------|------|------|--------|-----|--------|--|--|--|--|----------------|---------------|--|--|--|--|--|--|---|---|---|---|---|---|---|----------------------------------|------|------|------|--------|--------|--------|------|---------|---|----|--|--|--|--|--|---------|--|----|----|----|--|--|--|---------|--|--|----|----|--|--|--|---------|--|--|----|----|----|--|--|---------|--|--|--|--|----|--|--|--------|--|--|--|--|--|--|--|
| 1                                |   | Length of wagon over uncompressed buffers   |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 2                                |   | Tare weight of wagon  |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 3                                |   | Length of load  |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 4                                |   | Floor space   |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 5                                |   | Load capacity   |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 6                                |   | Capacity of tank wagons, expressed in m³, hl or l   |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 7                                |   | Distance between <ul style="list-style-type: none"> <li>- the end axles of bogies</li> <li>- the end axles of wagons without bogies</li> <li>- the bogie centres of bogie wagons</li> </ul> |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 8                                | <table border="1" data-bbox="188 902 432 992"> <tr> <td></td> <td>A</td> <td>B</td> <td>C</td> <td>D</td> </tr> <tr> <td>S</td> <td>40,5</td> <td>48,5</td> <td>56,5</td> <td>66,5**</td> </tr> <tr> <td>120</td> <td colspan="4">00,0 t</td> </tr> </table> |   | A    | B      | C      | D      | S    | 40,5 | 48,5 | 56,5 | 66,5** | 120 | 00,0 t |  |  |  | <p>International load limit panel</p> <p>The load limits represent the maximum load in tonnes for wagons running on lines of the specified category.</p> <p>In the example shown here, the load limits for the line categories A, B, C and D are: Cat. A: 40.5 t; Cat. B: 48.5 t; Cat. C: 56.5 t; Cat. D: 66.5 t.</p> <p>Wagons authorised to run at speeds of up to 120 km/h only when empty.</p> <p>Stars next to the load limit panel signify:<br/> ** = wagons authorised to run in trains up to 120 km/h on certain lines in the DB network if the load limits for that category of line are not exceeded.</p> <p>The line categories determine the maximum permissible axle load and the mass per unit length:</p> <table border="1" data-bbox="571 1424 1473 2007"> <tr> <td rowspan="2">Classification</td> <td colspan="7">Axle load = P</td> </tr> <tr> <td>A</td> <td>B</td> <td>C</td> <td>D</td> <td>E</td> <td>F</td> <td>G</td> </tr> <tr> <td>Vehicle mass per unit length = p</td> <td>16 t</td> <td>18 t</td> <td>20 t</td> <td>22.5 t</td> <td>25.0 t</td> <td>27.5 t</td> <td>30 t</td> </tr> <tr> <td>5.0 t/m</td> <td>A</td> <td>B1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6.4 t/m</td> <td></td> <td>B2</td> <td>C2</td> <td>D2</td> <td></td> <td></td> <td></td> </tr> <tr> <td>7.2 t/m</td> <td></td> <td></td> <td>C3</td> <td>D3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>8.0 t/m</td> <td></td> <td></td> <td>C4</td> <td>D4</td> <td>E4</td> <td></td> <td></td> </tr> <tr> <td>8.8 t/m</td> <td></td> <td></td> <td></td> <td></td> <td>E5</td> <td></td> <td></td> </tr> <tr> <td>10 t/m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> | Classification | Axle load = P |  |  |  |  |  |  | A | B | C | D | E | F | G | Vehicle mass per unit length = p | 16 t | 18 t | 20 t | 22.5 t | 25.0 t | 27.5 t | 30 t | 5.0 t/m | A | B1 |  |  |  |  |  | 6.4 t/m |  | B2 | C2 | D2 |  |  |  | 7.2 t/m |  |  | C3 | D3 |  |  |  | 8.0 t/m |  |  | C4 | D4 | E4 |  |  | 8.8 t/m |  |  |  |  | E5 |  |  | 10 t/m |  |  |  |  |  |  |  |
|                                  | A  | B   | C    | D      |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| S                                | 40,5   | 48,5  | 56,5 | 66,5** |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 120                              | 00,0 t   |   |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| Classification                   | Axle load = P  |   |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
|                                  | A  | B   | C    | D      | E      | F      | G    |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| Vehicle mass per unit length = p | 16 t   | 18 t  | 20 t | 22.5 t | 25.0 t | 27.5 t | 30 t |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 5.0 t/m                          | A  | B1  |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 6.4 t/m                          |  | B2  | C2   | D2     |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 7.2 t/m                          |  |   | C3   | D3     |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 8.0 t/m                          |  |   | C4   | D4     | E4     |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 8.8 t/m                          |  |   |      |        | E5     |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |
| 10 t/m                           |  |   |      |        |        |        |      |      |      |      |        |     |        |  |  |  |  |                |               |  |  |  |  |  |  |   |   |   |   |   |   |   |                                  |      |      |      |        |        |        |      |         |   |    |  |  |  |  |  |         |  |    |    |    |  |  |  |         |  |  |    |    |  |  |  |         |  |  |    |    |    |  |  |         |  |  |  |  |    |  |  |        |  |  |  |  |  |  |  |

p = Vehicle mass per unit length, which is the sum of the tare weight of the wagon and the weight of the payload divided by the length of wagon over the uncompressed buffers..

| No.  | Inscriptions and symbols  | Meaning  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
|------|---|--|------|------|------|--------|--------|---|--------|--|---|----|----|-----|---|----|----|--|
| 9    | <table border="1"> <tr> <td>DB</td> <td>CM 2</td> <td>CM 3</td> <td>CM 4</td> </tr> <tr> <td>100</td> <td>51.5 t</td> <td colspan="2">55.5 t</td> </tr> </table>  | DB   | CM 2 | CM 3 | CM 4 | 100    | 51.5 t | 55.5 t  |        | <p>Additional information panel</p> <p>An axle load of 21.0 t and therefore correspondingly higher load limits are permitted for certain freight wagons running on DB lines of category CM</p>   |   |    |    |     |   |    |    |  |
| DB   | CM 2  | CM 3   | CM 4 |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 100  | 51.5 t  | 55.5 t   |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 10   | <table border="1"> <tr> <td>DB</td> <td>CE</td> <td>D</td> </tr> <tr> <td>100</td> <td colspan="2">85.0 t</td> </tr> </table>   | DB   | CE   | D    | 100  | 85.0 t |        | <p>Additional information panel</p> <p>Higher load limit for freight wagons with six or more axles.</p> |        |  |   |    |    |     |   |    |    |  |
| DB   | CE  | D  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 100  | 85.0 t  |  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 11   | <table border="1"> <tr> <td>SNCF</td> <td>FS</td> <td rowspan="2">C</td> </tr> <tr> <td>DB</td> <td></td> </tr> <tr> <td colspan="2">100</td> <td>28.5 t</td> </tr> </table>  | SNCF   | FS   | C    | DB   |        | 100    |   | 28.5 t | <p>Additional information panel</p> <p>Note: If the international load limit panel on the freight wagon is marked with a double star and if the wagon also has an additional information panel of the types described in nos. 9 to 11 above, the maximum load limit specified on the additional panel can be used for wagons running in trains up to 120 km/h.</p> |   |    |    |     |   |    |    |  |
| SNCF | FS  | C  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| DB   |   |  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 100  |   | 28.5 t   |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 12   | <table border="1"> <thead> <tr> <th></th> <th>m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3</td> <td>23</td> <td>26</td> </tr> <tr> <td>b-b</td> <td>6</td> <td>27</td> <td>30</td> </tr> <tr> <td>c-c</td> <td>9</td> <td>39</td> <td>39</td> </tr> </tbody> </table> |  | m    | t    |      | a-a    | 3      | 23  | 26     | b-b  | 6 | 27 | 30 | c-c | 9 | 39 | 39 | <p>Maximum concentrated loads placed in the centre of the wagon for the following three modes of support:</p> <ul style="list-style-type: none"> <li>- load spread over the length of the supporting surface (—).</li> <li>- loads resting on two support points (▲▲).</li> </ul> <p>The distance between the support points are</p> <ul style="list-style-type: none"> <li>- 2.0 m (if one vertical line shown)</li> <li>- 1.2 m (if two vertical lines shown)</li> </ul> |
|      | m   | t  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| a-a  | 3   | 23   | 26   |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| b-b  | 6   | 27   | 30   |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| c-c  | 9   | 39   | 39   |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 13   |   | Used on wagons with more than four axles to indicate that carrying capacity is greater than the maximum load displayed in the load limit panel (special conditions of carriage apply).                             |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 14   |   | Indicates the minimum curve radius that a bogie wagon can negotiate.   |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 15   | $25 \frac{A}{35}$   | <p>A: Removable wagon accessory.</p> <p>Number in front of the fraction bar: Number of removable wagon accessories.</p> <p>Number below the fraction bar: Code indicating type of removable wagon accessories.</p> |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 16   |   | <p>High-voltage warning sign</p> <p>1 (black on a yellow background).</p> <p>2 (yellow on dark, or red on light background).</p>   |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 17   |   | <p>Sign located inside wagon</p> <p>No nails or staples to be used.</p>  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 18   |   | Forklift trucks can be used on wagon floor only if wheel force does not exceed 12 kN.  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 19   |   | Indicates a freight wagon that has been constructed to conform with the G1 vehicle gauge.  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |
| 20   |   | Indicates a freight wagon that has been constructed to conform with the GA, GB or GC vehicle gauge.  |      |      |      |        |        |   |        |  |   |    |    |     |   |    |    |  |

# Codes identifying the country in which freight wagons are

| Country            | Alphabetical Code | Numerical Code | RIV/PPW member company <sup>1)</sup> |
|--------------------|-------------------|----------------|--------------------------------------|
| Albania            | AL                | 41             | HSh                                  |
| Algeria            | DZ                | 92             | SNTF                                 |
| Armenia            | AM <sup>2)</sup>  | 58             | ARM                                  |
| Austria            | A                 | 81             | ÖBB                                  |
| Azerbaijan         | AZ                | 57             | AZ                                   |
| Belarus            | BY                | 21             | BC                                   |
| Belgium            | B                 | 88             | SNCB/NMBS                            |
| Bosnia Herzegovina | BIH               | 44             | ŽRS                                  |
|                    |                   | 50             | ŽFBH                                 |
| Bulgaria           | BG                | 52             | BDZ, SRIC                            |
| China              | RC                | 33             | KZD                                  |
| Croatia            | HR                | 78             | HŽ                                   |
| Cuba               | CU <sup>2)</sup>  | 40             | FC                                   |
| Cyprus             | CY                |                |                                      |
| The Czech Republic | CZ                | 54             | ČD                                   |
| Denmark            | DK                | 86             | DSB, BS                              |
| Egypt              | ET                | 90             | ENR                                  |
| Estonia            | EST               | 26             | EVR                                  |
| Finland            | FIN               | 10             | VR, RHK                              |
| France             | F                 | 87             | SNCF, RFF                            |
| Georgia            | GE                | 28             | GR                                   |
| Germany            | D                 | 80             | DB, AAE <sup>3)</sup>                |
| Greece             | GR                | 73             | CH                                   |
| Hungary            | H                 | 55             | MÁV, GySEV/ROeEE <sup>3)</sup>       |
| Iran               | IR                | 96             | RAI                                  |
| Iraq               | IRQ <sup>2)</sup> | 99             | IRR                                  |
| Ireland            | IRL               | 60             | CIE                                  |
| Israel             | IL                | 95             | IR                                   |
| Italy              | I                 | 83             | FS, FNME <sup>3)</sup>               |
| Japan              | J                 | 42             | EJRC                                 |
| Kazakhstan         | KZ                | 27             | KZH                                  |
| Kirgizstan         | KS                | 59             | KRG                                  |
| Latvia             | LV                | 25             | LDZ                                  |
| Lebanon            | RL                | 98             | CEL                                  |

<sup>1)</sup> Companies that were members of the UIC or OSJD at the time the “Technical specification of interoperability relating to the subsystem Traffic Operation and Management” entered into force and that used the codes listed in this column as country codes. For exceptions, see <sup>2)</sup>

<sup>2)</sup> Codes still to be confirmed.

<sup>3)</sup> For a transitional period, companies can use the codes 43 (GySEV/ROeEE), 63 (BLS), 64 (FNME) and 68 (AAE). The length of this transitional period will be agreed jointly by the affected member states at some later date.



# registered

| Country                                    | Alphabetical Code | Numerical Code | RIV/PPW member country <sup>1)</sup> |
|--|-------------------|----------------|--------------------------------------|
| Lichtenstein                               | LIE <sup>2)</sup> |                |                                      |
| Lithuania                                  | LT                | 24             | LG                                   |
| Luxembourg                                 | L                 | 82             | CFL                                  |
| Macedonia (former: Republic of Yugoslavia) | MK                | 65             | CFARYM (MŽ)                          |
| Malta                                      | M                 |                |                                      |
| Moldavia                                   | MD <sup>2)</sup>  | 23             | CFM                                  |
| Monaco                                     | MC                |                |                                      |
| Mongolia                                   | MGL               | 31             | MTZ                                  |
| Morocco                                    | MA                | 93             | ONCFM                                |
| Netherlands                                | NL                | 84             | NS                                   |
| North Korea                                | PRK <sup>2)</sup> | 30             | ZC                                   |
| Norway                                     | N                 | 76             | NSB, JBV                             |
| Poland                                     | PL                | 51             | PKP                                  |
| Portugal                                   | P                 | 94             | CP, REFER                            |
| Romania                                    | RO                | 53             | CFR                                  |
| Russia                                     | RUS               | 20             | RZD                                  |
| Serbia and Montenegro                      | SCG               | 72             | JŽ                                   |
| Slovakia                                   | SK                | 56             | ŽSSK, ŽSR                            |
| Slovenia                                   | SLO               | 79             | SŽ                                   |
| South Korea                                | ROK               | 61             | KNR                                  |
| Spain                                      | E                 | 71             | RENFE                                |
| Sweden                                     | S                 | 74             | GC, BV                               |
| Switzerland                                | CH                | 85             | SBB/CFF/FFS, BLS <sup>3)</sup>       |
| Syria                                      | SYR               | 97             | CFS                                  |
| Tajikistan                                 | TJ                | 66             | TZD                                  |
| Tunisia                                    | TN                | 91             | SNCFT                                |
| Turkey                                     | TR                | 75             | TCDD                                 |
| Turkmenistan                               | TM                | 67             | TRK                                  |
| Ukraine                                    | UA                | 22             | UZ                                   |
| Great Britain                              | GB                | 70             | BR                                   |
| Uzbekistan                                 | UZ                | 29             | UTI                                  |
| Vietnam                                    | VN <sup>2)</sup>  | 32             | DSVN                                 |

<sup>1)</sup> Companies that were members of the UIC or OSJD at the time the “Technical specification of interoperability relating to the subsystem Traffic Operation and Management” entered into force and that used the codes listed in this column as country codes. For exceptions, see <sup>2)</sup>

<sup>2)</sup> Codes still to be confirmed.

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# Freight wagon classification codes (“class” and “index” letters)

## 1. Important preliminary remarks

The most important technical characteristics of a freight wagon are indicated by a series of letters on the wagon body. This freight wagon classification code is made up of an upper-case (capital) letter and several lower case letters.

The capital letter designates

- the class of wagon (open wagon, covered wagon, flat wagon, etc.) and
- the wagon construction type (ordinary or special).

The lower-case letters (also known as the index letters), identify the main features of the wagon from the point of view of its use.

In the following tables

- information given in metres refers to the useful (i.e. inside) length of the freight wagon (lu),
- information given in tonnes (tu) corresponds to the maximum permissible load shown on the load limit panel for the wagon in question, this limit being determined in accordance with the procedures laid down in UIC leaflet 700.

| <b>E</b> Open wagons  |   |
|---|---|
| <b>Reference wagon</b>  |   |
| of ordinary type, with side and end tipping and flat floor  |   |
| with 2 axles: $lu \geq 7.70 \text{ m}$ ; $25 \text{ t} \leq tu \leq 30 \text{ t}$   |   |
| with 4 axles: $lu \geq 12 \text{ m}$ ; $50 \text{ t} \leq tu \leq 60 \text{ t}$   |   |
| with 6 or more axles: $lu \geq 12 \text{ m}$ ; $60 \text{ t} \leq tu \leq 75 \text{ t}$   |   |
| <b>Index letters</b>  |   |
| a   | with 4 axles  |
| aa  | with 6 or more axles  |
| c   | with floor traps (1)  |
| k   | with 2 axles: $tu < 20 \text{ t}$                           |
|   | with 4 axles: $tu < 40 \text{ t}$                           |
|   | with 6 or more axles: $tu < 50 \text{ t}$                   |
| kk  | with 2 axles: $20 \text{ t} \leq tu < 25 \text{ t}$         |
|   | with 4 axles: $40 \text{ t} \leq tu < 50 \text{ t}$         |
|   | with 6 or more axles: $50 \text{ t} \leq tu < 60 \text{ t}$ |
| l   | not side tipping  |
| ll  | without floor traps (2)                                     |
| m   | with 2 axles: $lu < 7.70 \text{ m}$                         |
|   | with 4 or more axles: $lu < 12 \text{ m}$                   |
| n   | with 2 axles: $tu > 30 \text{ t}$                           |
|   | with 4 axles: $tu > 60 \text{ t}$                           |
|   | with 6 or more axles: $tu > 75 \text{ t}$                   |
| o   | not end tipping   |
| p   | with station for brakeman (2)                               |
| (1) This term applies only to open wagons with a flat floor and that are fitted with a device enabling them to be used either as ordinary standard-gauge wagons with a flat bottom, or for gravity unloading of certain goods by suitable positioning of the traps. |   |
| (2) Only applicable to wagons with a gauge of 1520 mm.  |   |

| <b>F</b> Open wagons  |  |
|---|--|
| <b>Reference wagon</b>  |  |
| of special type   |  |
| with 2 axles: $25 \text{ t} \leq tu \leq 30 \text{ t}$  |  |
| with 3 axles: $25 \text{ t} \leq tu \leq 40 \text{ t}$  |  |
| with 4 axles: $50 \text{ t} \leq tu \leq 60 \text{ t}$  |  |
| with 6 or more axles: $60 \text{ t} \leq tu \leq 75 \text{ t}$  |  |
| <b>Index letters</b>  |  |
| a   | with 4 axles   |
| aa  | with 6 or more axles   |
| b   | high-capacity non-bogie wagon (load capacity > 45 m <sup>3</sup> )                     |
| c   | controlled gravity unloading, bilateral, side-selectable, high-level (1)               |
| cc  | controlled gravity unloading, bilateral, side-selectable, low-level (1)                |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel) |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel          |
| fff   | suitable only for traffic travelling to/from Great Britain on a train-ferry            |
| k   | with 2 or 3 axles: $tu < 20 \text{ t}$   |
|   | with 4 axles: $tu < 40 \text{ t}$  |
|   | with 6 or more axles: $tu < 50 \text{ t}$  |
| kk  | with 2 or 3 axles: $20 \text{ t} \leq tu < 25 \text{ t}$                               |
|   | with 4 axles: $40 \text{ t} \leq tu < 50 \text{ t}$                                    |
|   | with 6 or more axles: $50 \text{ t} \leq tu < 60 \text{ t}$                            |
| l   | bulk gravity unloading, bilateral, simultaneous, high-level (1)                        |
| ll  | bulk gravity unloading, bilateral, simultaneous, low-level (1)                         |
| n   | with 2 axles: $tu > 30 \text{ t}$  |
|   | with 3 axles: $tu > 40 \text{ t}$  |
|   | with 4 axles: $tu > 60 \text{ t}$  |
|   | with 6 or more axles: $tu > 75 \text{ t}$  |
| o   | bulk gravity unloading, axial, high-level (1)  |
| oo  | bulk gravity unloading, axial, low-level (1)   |
| p   | controlled gravity unloading, axial, high-level (1)                                    |
| pp  | controlled gravity unloading, axial, low-level (1)                                     |
| (1) Class F wagons that use gravity unloading are open wagons that do not have a flat floor and have no tipping facility either at the end or the side.   |  |
| (2) Only applicable to wagons with a gauge of 1520 mm.  |  |
| The method of unloading these wagons is defined by a combination of the following characteristics:  |  |
| ■ Arrangement of the discharge openings:  |  |
| – axial: openings located above track centre line   |  |
| – bilateral: openings on both sides of the track, extending beyond rails  |  |
| – (for these wagons, unloading is   |  |
| – “bilateral, simultaneous” if complete emptying of the wagon requires the discharge openings to be open on both sides  |  |
| – “bilateral, side-selectable” if complete emptying of the wagon only requires the discharge openings on one side to be open)   |  |
| – high-level: lower edge of the discharge opening (without taking into account any mobile devices that may form an extension to the opening) is situated at least 0.700 m above the top of the rail and allows for the use of a conveyor belt to receive and remove the goods |  |
| – low-level: position of the lower edge of the discharge opening does not allow for the use of a conveyor belt to receive and remove the goods.   |  |
| ■ Rate of unloading:  |  |
| – Bulk unloading: Once the discharge openings are open for unloading, they cannot be closed again until the wagon is empty.   |  |
| – Controlled unloading: The discharge of the goods can be regulated or even stopped at any time during unloading.   |  |

## 2. Index letters that are internationally valid for all wagon classes

- q with electrical heating line for all approved power supply systems
- qq with electrical heating line and heating equipment for all approved power supply systems
- s wagons approved for running under “s” conditions ( $V_{\max} = 100$  km/h)
- ss wagons approved for running under “ss” conditions ( $V_{\max} = 120$  km/h)

## 3. National index letters

t, u, v, w, x, y, z (meaning defined by relevant national body)

| <b>G</b> Covered wagons   |  |
|---|--|
| <b>Reference wagon</b>  |  |
|   | of ordinary type with at least 8 ventilation apertures   |
|   | with 2 axles: $9\text{ m} \leq lu < 12\text{ m}$ ; $25\text{ t} \leq tu \leq 30\text{ t}$          |
|   | with 4 axles: $15\text{ m} \leq lu < 18\text{ m}$ ; $50\text{ t} \leq tu \leq 60\text{ t}$         |
|   | with 6 or more axles: $15\text{ m} \leq tu < 18\text{ m}$ ; $60\text{ t} \leq tu \leq 75\text{ t}$ |
| <b>Index letters</b>  |  |
| a   | with 4 axles   |
| aa  | with 6 or more axles   |
| b   | high-capacity wagon with 2 axles: $lu \geq 12\text{ m}$ and load capacity $\geq 70\text{ m}^3$     |
|   | high-capacity wagon with 2 or more axles: $lu \geq 18\text{ m}$                                    |
| bb  | with 4 axles: $lu > 18\text{ m}$ (2)   |
| g   | for grain  |
| h   | for early vegetables (1)   |
| k   | with 2 axles: $tu < 20\text{ t}$   |
|   | with 4 axles: $tu < 40\text{ t}$   |
|   | with 6 or more axles: $tu < 50\text{ t}$   |
| kk  | with 2 axles: $20\text{ t} \leq tu < 25\text{ t}$  |
|   | with 4 axles: $40\text{ t} \leq tu < 50\text{ t}$  |
|   | with 6 or more axles: $50\text{ t} \leq tu < 60\text{ t}$  |
| l   | with less than 8 ventilation apertures   |
| ll  | with wider door openings (2)   |
| m   | with 2 axles: $lu < 9\text{ m}$  |
|   | with 6 or more axles: $lu < 15\text{ m}$   |
| n   | with 2 axles: $tu > 30\text{ t}$   |
|   | with 4 axles: $tu > 60\text{ t}$   |
|   | with 6 or more axles: $tu > 75\text{ t}$   |
| o   | with 2 axles: $lu < 12\text{ m}$ and load capacity $\geq 70\text{ m}^3$                            |
| p   | with station for brakeman (2)  |
| (1) The term “for early vegetables” applies only to wagons provided with additional ventilation apertures at floor level. |  |
| (2) Only applicable to wagons with a gauge of 1520 mm.  |  |

| <b>H</b> Covered wagons   |  |
|---|--|
| <b>Reference wagon</b>  |  |
|   | of special type  |
|   | with 2 axles: $9\text{ m} \leq lu < 12\text{ m}$ , $25\text{ t} \leq tu \leq 28\text{ t}$          |
|   | with 4 axles: $15\text{ m} \leq lu < 18\text{ m}$ , $50\text{ t} \leq tu \leq 60\text{ t}$         |
|   | with 6 or more axles: $15\text{ m} \leq lu < 18\text{ m}$ , $60\text{ t} \leq tu \leq 75\text{ t}$ |
| <b>Index letters</b>  |  |
| a   | with 4 axles   |
| aa  | with 6 or more axles   |
| b   | with 2 axles: $12\text{ m} \leq lu < 14\text{ m}$ and load capacity $\leq 70\text{ m}^3$ (1)       |
|   | with 4 or more axles: $18\text{ m} \leq lu < 22\text{ m}$  |
| bb  | with 2 axles: $\leq 14\text{ m}$   |
|   | with 4 or more axles: $lu \leq 22\text{ m}$  |
| c   | with end doors   |
| cc  | with end doors and internal fittings for transporting motor vehicles                               |
| d   | with floor traps   |
| dd  | with tipping body (4)  |
| e   | with 2 floors  |
| ee  | with 3 or more floors  |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel)             |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel                      |
| fff   | suitable only for traffic travelling to/from Great Britain on a train-ferry                        |
| g   | for grain  |
| gg  | for cement (4)   |
| h   | for early vegetables (2)   |
| hh  | for mineral fertiliser (4)   |
| i   | with opening side walls  |
| ii  | with high-strength opening side walls or sliding walls (5)   |
| k   | with 2 axles: $tu < 20\text{ t}$   |
|   | with 4 axles: $tu < 40\text{ t}$   |
|   | with 6 or more axles: $tu < 50\text{ t}$   |
| kk  | with 2 axles: $20\text{ t} \leq tu < 25\text{ t}$  |
|   | with 4 axles: $40\text{ t} \leq tu < 50\text{ t}$  |
|   | with 6 or more axles: $50\text{ t} \leq tu < 60\text{ t}$  |
| l   | with movable partitions (3)  |
| ll  | with lockable partitions (3)   |
| m   | with 2 axles: $lu < 9\text{ m}$  |
|   | with 4 or more axles: $lu < 15\text{ m}$   |
| mm  | with 4 or more axles: $lu > 18\text{ m}$ (4)   |
| n   | with 2 axles: $tu > 28\text{ t}$   |
|   | with 4 axles: $tu > 60\text{ t}$   |
|   | with 6 or more axles: $tu > 75\text{ t}$   |
| o   | with 2 axles: $lu < 12\text{ m}$ and load capacity $\leq 70\text{ m}^3$                            |
| p   | with station for brakeman (4)  |
| (1) Two-axle wagons bearing the index letter “f” can have a load capacity of less than $70\text{ m}^3$ .                  |  |
| (2) The term “for early vegetables” applies only to wagons provided with additional ventilation apertures at floor level. |  |
| (3) Lockable partitions may be removed temporarily.   |  |
| (4) Only applicable to wagons with a gauge of 1520 mm.  |  |
| (5) Only applicable to wagons with a gauge of 1435 mm.  |  |

## I Temperature-controlled wagons

### Reference wagon

Refrigerator wagon with class IN thermal insulation, with motor-driven ventilation, with floor-level grating and ice bunkers ( $\geq 3.5 \text{ m}^3$  or larger).  
with 2 axles:  $19 \text{ m}^2 \leq \text{floor area} < 22 \text{ m}^2$ ,  $15 \text{ t} \leq \text{tu} \leq 25 \text{ t}$   
with 4 axles: floor area  $\leq 39 \text{ m}^2$ ,  $30 \text{ t} \leq \text{tu} \leq 40 \text{ t}$

### Index letters

|     |   |
|-----|---|
| a   | with 4 axles  |
| b   | with 2 axles and a large floor area:<br>$22 \text{ m}^2 \leq \text{floor area} \leq 27 \text{ m}^2$   |
| bb  | with 2 axles and a very large floor area:<br>floor area $< 27 \text{ m}^2$                            |
| c   | with meat hooks   |
| d   | for sea fish  |
| e   | with electric ventilation   |
| f   | suitable for traffic travelling to/from Great Britain<br>(train-ferry and Channel Tunnel)             |
| ff  | suitable only for traffic travelling to/from Great Britain<br>via Channel Tunnel                      |
| fff | suitable only for traffic travelling to/from Great Britain<br>on a train-ferry                        |
| g   | with mechanical refrigeration (1) (2)   |
| gg  | with liquid gas refrigeration (1)   |
| h   | with class IR thermal insulation  |
| i   | refrigerator wagon cooled by a refrigeration unit in an<br>accompanying technical trailer (1) (2) (4) |
| ii  | technical trailer (1) (4)   |
| k   | with 2 axles: $\text{tu} < 15 \text{ t}$<br>with 4 axles: $\text{tu} < 30 \text{ t}$                  |
| l   | insulated wagon without ice bunkers (1) (3)   |
| m   | with 2 axles: floor area $< 19 \text{ m}^2$<br>with 4 axles: floor area $< 39 \text{ m}^2$            |
| mm  | with 4 axles: floor area $\geq 39 \text{ m}^2$ (5)  |
| n   | with 2 axles: $\text{tu} > 25 \text{ t}$<br>with 4 axles: $\text{tu} > 40 \text{ t}$                  |
| o   | with ice bunkers of capacity less than $3.5 \text{ m}^3$ (3)  |
| p   | without floor-level grating   |

- (1) The index letter "l" shall not be marked on wagons bearing the index letters "g", "gg", "i" or "ii".
- (2) Wagons bearing both the index letters "g" and "i" can be used individually or in a refrigerated train.
- (3) The index letter "o" shall not be marked on wagons bearing the index letter "l".
- (4) The term "technical trailer" may apply to equipment wagons, workshop wagons (in both cases, either with or without sleeping accommodation) and dormitory wagons.
- (5) Only applicable to wagons with a gauge of 1520 mm.

Note: The use of ice bunkers is taken into account when calculating the floor area of a covered refrigerator wagon.

## K Two-axle flat wagons

### Reference wagon

of ordinary type with hinged boards and short stanchions  
 $\text{lu} \geq 12 \text{ m}$ ;  $25 \text{ t} \leq \text{tu} \leq 30 \text{ t}$

### Index letters

|    |  |
|----|--|
| b  | with long stanchions                           |
| g  | for container transport (1) (2)                |
| i  | with movable top cover and fixed end walls (3) |
| j  | with shock-absorbing device                    |
| k  | $\text{tu} < 20 \text{ t}$                     |
| kk | $20 \text{ t} \leq \text{tu} < 25 \text{ t}$   |
| l  | without stanchions                             |
| m  | $9 \text{ m} \leq \text{lu} < 12 \text{ m}$    |
| mm | $\text{lu} < 9 \text{ m}$                      |
| n  | $\text{tu} > 30 \text{ t}$                     |
| o  | with fixed boards                              |
| p  | without boards (3)                             |
| pp | with removable boards                          |

- (1) Except containers with running gear in accordance with UIC leaflet 590.
- (2) The letter "g" may be used together with the wagon class letter K only for ordinary wagons that have been additionally fitted out to enable container transport. Wagons designed solely for the transport of containers must be classified as class L wagons.
- (3) The index letter "p" shall not be marked on wagons bearing index letter "I".

## L Flat wagons with separate axles

### Reference wagon

of special type  
 $\text{lu} \geq 12 \text{ m}$ ;  $25 \text{ t} \leq \text{tu} \leq 30 \text{ t}$

### Index letters

|     |   |
|-----|---|
| b   | flat wagon for medium-sized containers (pa) (1) (2)                                       |
| c   | with pivot bolster (2)  |
| d   | for transporting motor vehicles on one level (2)  |
| e   | with more than one deck for transporting motor vehicles (2)                               |
| f   | suitable for traffic travelling to/from Great Britain<br>(train-ferry and Channel Tunnel) |
| ff  | suitable only for traffic travelling to/from Great Britain<br>via Channel Tunnel          |
| fff | suitable only for traffic travelling to/from Great Britain<br>on a train-ferry            |
| g   | for container transport (2) (3)<br>(except medium sized "pa" containers)                  |
| h   | for sheet metal coils loaded eye-to-side (2) (4)  |
| hh  | for sheet metal coils loaded eye-to-sky (2) (4)   |
| i   | with movable top cover and fixed end walls (2)  |
| ii  | with high-strength movable metal cover (5) and fixed<br>end walls (2)                     |
| j   | with shock-absorbing device   |
| k   | $\text{tu} < 20 \text{ t}$  |
| kk  | $20 \text{ t} \leq \text{tu} < 25 \text{ t}$  |
| l   | without stanchions  |
| m   | $9 \text{ m} \leq \text{lu} < 12 \text{ m}$   |
| mm  | $\text{lu} < 9 \text{ m}$   |
| n   | $\text{tu} > 30 \text{ t}$  |
| p   | without boards (2)  |

- (1) For containers with running gear in accordance with UIC leaflet 590.
- (2) The index letters "l" or "p" can be optionally marked on wagons bearing the index letters "b", "c", "d", "e", "g", "h", "hh", "i" or "ii". However, the numerical code on the wagon must always correspond to the wagon's letter markings.
- (3) Wagons used solely for transporting containers.
- (4) Wagons used solely for transporting sheet metal coils.
- (5) Only applicable to wagons with a gauge of 1435 mm.

## O Composite open flat wagons

### Reference wagon

of ordinary type, with 2 or 2 axles, with hinged boards and stanchions  
with 2 axles:  $lu \geq 12 \text{ m}$ ;  $25 \text{ t} \leq tu \leq 30 \text{ t}$   
with 3 axles:  $lu \geq 12 \text{ m}$ ;  $25 \text{ t} \leq tu \leq 40 \text{ t}$

### Index letters

|     |  |
|-----|--|
| a   | with 3 axles   |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel) |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel          |
| fff | suitable only for traffic travelling to/from Great Britain on a train-ferry            |
| k   | $tu < 20 \text{ t}$  |
| kk  | $20 \text{ t} \leq tu < 25 \text{ t}$  |
| l   | without stanchions   |
| m   | $9 \text{ m} \leq lu < 12 \text{ m}$   |
| mm  | $lu < 9 \text{ m}$   |
| n   | with 2 axles: $tu > 30 \text{ t}$<br>with 3 axles: $tu > 40 \text{ t}$                 |

## R Bogie flat wagons

### Reference wagon

of ordinary type, with hinged end boards and stanchions  
 $18 \text{ m} \leq lu < 22 \text{ m}$ ;  $50 \text{ t} \leq tu \leq 60 \text{ t}$

### Index letters

|    |  |
|----|--|
| b  | $lu \geq 22 \text{ m}$                         |
| e  | with hinged side boards                        |
| g  | for container transport (1) (2)                |
| h  | for sheet metal coils loaded eye-to-side (3)   |
| hh | for sheet metal coils loaded eye-to-sky (3)    |
| i  | with movable top cover and fixed end walls (4) |
| j  | with shock-absorbing device                    |
| k  | $tu < 40 \text{ t}$                            |
| kk | $40 \text{ t} \leq tu < 50 \text{ t}$          |
| l  | without stanchions                             |
| m  | $15 \text{ m} \leq lu < 18 \text{ m}$          |
| mm | $lu < 15 \text{ m}$                            |
| n  | $tu > 60 \text{ t}$                            |
| o  | with fixed end walls under 2 m in height       |
| oo | with fixed end walls 2 m or more in height (4) |
| p  | without end boards (4)                         |
| pp | with removable boards                          |

- (1) Except containers with running gear in accordance with UIC leaflet 590.
- (2) The letter "g" may be used together with the wagon class letter R only for ordinary wagons that have been additionally fitted out to enable container transport. Wagons designed solely for the transport of containers must be classified as class S wagons.
- (3) The letter "h" or "hh" may be used together with the wagon class letter R only for ordinary wagons that have been additionally fitted out to enable the transport of sheet metal coils. Wagons designed solely for the transport of sheet metal coils must be classified as class S wagons.
- (4) The index letter(s) "oo" and/or "p" shall not be marked on wagons bearing index letter "i".

## S Bogie flat wagons

### Reference wagon

#### of special type

with 4 axles:  $lu \geq 18 \text{ m}$ ;  $50 \text{ t} \leq tu \leq 60 \text{ t}$   
with 6 or more axles:  $lu \geq 22 \text{ m}$ ;  $60 \text{ t} \leq tu \leq 75 \text{ t}$

### Index letters

|     |  |
|-----|--|
| a   | with 6 axles (2 bogies each with 3 axles)  |
| aa  | with 8 or more axles   |
| aaa | with 4 axles (2 bogies each with 2 axles) (7)  |
| b   | flat wagon for medium-sized containers (pa) (1) (2)  |
| c   | with pivot bolster (2)   |
| d   | for transport of motor vehicles on one level (2) (4)   |
| e   | with more than one deck for the transport of motor vehicles (2)  |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel)                             |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel                                      |
| fff | suitable only for traffic travelling to/from Great Britain on a train-ferry  |
| g   | for transporting large containers up to 60 feet in length (except medium sized "pa" containers) (2) (3) (4)        |
| gg  | for transporting large containers over 60 feet in length (except medium sized "pa" containers) (2) (3) (4)         |
| h   | for sheet metal coils loaded eye-to-side (2) (5)   |
| hh  | for sheet metal coils loaded eye-to-sky (2) (5)  |
| i   | with movable top cover and fixed end walls (2)   |
| ii  | with high-strength movable metal cover (6) and fixed end walls (2)   |
| j   | with shock-absorbing device  |
| k   | with 4 axles: $tu < 40 \text{ t}$<br>with 6 or more axles: $tu < 50 \text{ t}$                                     |
| kk  | with 4 axles: $40 \text{ t} \leq tu < 50 \text{ t}$<br>with 6 or more axles: $50 \text{ t} \leq tu < 60 \text{ t}$ |
| l   | without stanchions (2)   |
| m   | with 4 axles: $15 \text{ m} \leq lu < 18 \text{ m}$<br>with 6 or more axles: $18 \text{ m} \leq lu < 22 \text{ m}$ |
| mm  | with 4 axles: $lu < 15 \text{ m}$<br>with 6 or more axles: $lu < 18 \text{ m}$                                     |
| mmm | with 4 axles: $lu \geq 22 \text{ m}$ (7)   |
| n   | with 4 axles: $tu > 60 \text{ t}$<br>with 6 or more axles: $tu > 75 \text{ t}$                                     |
| p   | without boards (2)   |

- (1) For containers with running gear in accordance with UIC leaflet 590.
- (2) The index letters "l" or "p" can be optionally marked on wagons bearing the index letters "b", "c", "d", "e", "g", "gg", "h", "hh", "i" or "ii". However, the numerical code on the wagon must always correspond to the wagon's letter markings.
- (3) Wagons used solely for transporting containers or for transporting swap bodies in accordance with the provisions of UIC leaflet 592-4.
- (4) Wagons that in addition to transporting containers and swap bodies can be used to transport vehicles shall be marked with the index letters "g" or "gg" and the letter "d".
- (5) Wagons used solely for transporting sheet metal coils.
- (6) Only applicable to wagons with a gauge of 1435 mm.
- (7) Only applicable to wagons with a gauge of 1520 mm.

## T Wagons with an opening roof

### Reference wagon

- with 2 axles:  $9\text{ m} \leq l_u < 12\text{ m}$ ;  $25\text{ t} \leq t_u \leq 30\text{ t}$
- with 4 axles:  $15\text{ m} \leq l_u < 18\text{ m}$ ;  $50\text{ t} \leq t_u \leq 60\text{ t}$
- with 6 or more axles:  $15\text{ m} \leq l_u < 18\text{ m}$ ;  $60\text{ t} \leq t_u \leq 75\text{ t}$

### Index letters

|     |  |
|-----|--|
| a   | with 4 axles   |
| aa  | with 6 or more axles   |
| b   | high-capacity wagon with 2 axles: $l_u \leq 12\text{ m}$ (1) (2)<br>high-capacity wagon with 4 axles: $l_u \leq 18\text{ m}$ (1) (2)                                   |
| c   | with end doors   |
| d   | controlled gravity unloading, bilateral, side-selectable,<br>high-level (1) (2) (3)  |
| dd  | controlled gravity unloading, bilateral, side-selectable,<br>low-level (1) (2) (3)   |
| e   | with height of door openings over 1.90 m (1) (2) (3)   |
| f   | suitable for traffic travelling to/from Great Britain<br>(train-ferry and Channel Tunnel)  |
| ff  | suitable only for traffic travelling to/from Great Britain<br>via Channel Tunnel   |
| fff | suitable only for traffic travelling to/from Great Britain<br>on a train-ferry   |
| g   | for grain  |
| h   | for sheet metal coils loaded eye-to-side   |
| hh  | for sheet metal coils loaded eye-to-sky  |
| i   | with opening side walls (1)  |
| j   | with shock-absorbing device  |
| k   | with 2 axles: $t_u < 20\text{ t}$<br>with 4 axles: $t_u < 40\text{ t}$<br>with 6 or more axles: $t_u < 50\text{ t}$  |
| kk  | with 2 axles: $20\text{ t} \leq t_u < 25\text{ t}$<br>with 4 axles: $40\text{ t} \leq t_u < 50\text{ t}$<br>with 6 or more axles: $50\text{ t} \leq t_u < 60\text{ t}$ |
| l   | bulk gravity unloading, bilateral, simultaneous,<br>high-level (1) (2) (3)   |
| ll  | bulk gravity unloading, bilateral, simultaneous,<br>low-level (1) (2) (3)  |
| m   | with 2 axles: $l_u < 9\text{ m}$<br>with 4 or more axles: $18\text{ m} \leq l_u < 22\text{ m}$   |
| n   | with 2 axles: $t_u > 30\text{ t}$<br>with 4 axles: $t_u > 60\text{ t}$<br>with 6 or more axles: $t_u > 75\text{ t}$  |
| o   | bulk gravity unloading, axial, high-level (1) (2) (3)  |
| oo  | bulk gravity unloading, axial, low-level (1) (2) (3)   |
| p   | controlled gravity unloading, axial, high-level (1) (2) (3)  |
| pp  | controlled gravity unloading, axial, low-level (1) (2) (3)   |

(1) Index letter "e" is optional on wagons bearing the index letter "b" but shall not be marked on wagons bearing the index letters "d", "dd", "i", "l", "ll", "o", "oo", "p" or "pp". The index letters "b" and "m" shall not be marked on wagons bearing the index letters "d", "dd", "l", "ll", "o", "oo", "p" or "pp".

(2) Class T wagons that use gravity unloading have an opening roof that provides access to the loading area over the entire length of the wagon body; these wagons do not have a flat floor and are not designed for side or end tipping.

The method of unloading these wagons is defined by a combination of the following characteristics:

- Arrangement of the discharge openings:
  - axial: Openings located above track centre line
  - bilateral: openings on both sides of the track, extending beyond rails
    - (for these wagons, unloading is
      - bilateral, simultaneous" if complete emptying of the wagon requires the discharge openings to be open on both sides
      - "bilateral, side-selectable" if complete emptying of the wagon only requires the discharge openings on one side to be open)
  - high-level: lower edge of the discharge opening (without taking into account any mobile devices that may form an extension to the opening) is situated at least 0.700 m above the top of the rail and allows for the use of a conveyor belt to receive and remove the goods
  - low-level: position of the lower edge of the discharge opening does not allow for the use of a conveyor belt to receive and remove the goods.
- Rate of unloading:
  - Bulk unloading: Once the discharge openings are open for unloading, they cannot be closed again until the wagon is empty.
  - Controlled unloading: The discharge of the goods can be regulated or even stopped at any time during unloading.

## U Special wagons

### Reference wagon

- other than those in classes F, H, L, S or Z
- with 2 axles:  $25\text{ t} \leq t_u \leq 30\text{ t}$
- with 3 axles:  $25\text{ t} \leq t_u \leq 40\text{ t}$
- with 4 axles:  $50\text{ t} \leq t_u \leq 60\text{ t}$
- with 6 or more axles:  $60\text{ t} \leq t_u \leq 75\text{ t}$

### Index letters

|     |   |
|-----|---|
| a   | with 4 axles  |
| aa  | with 6 or more axles  |
| c   | unloaded using compressed gas   |
| d   | with controlled gravity unloading, bilateral, side-selectable,<br>high-level (3)  |
| dd  | with controlled gravity unloading, bilateral, side-selectable,<br>low-level (3)   |
| f   | suitable for traffic travelling to/from Great Britain<br>(train-ferry and Channel Tunnel)   |
| ff  | suitable only for traffic travelling to/from Great Britain<br>via Channel Tunnel  |
| fff | suitable only for traffic travelling to/from Great Britain<br>on a train-ferry  |
| g   | for grain   |
| l   | for transporting objects that would exceed the loading gauge<br>if loaded onto ordinary wagons (1) (2)  |
| k   | with 2 or 3 axles: $t_u < 20\text{ t}$<br>with 4 axles: $t_u < 40\text{ t}$<br>with 6 or more axles: $t_u < 50\text{ t}$  |
| kk  | with 2 or 3 axles: $20\text{ t} \leq t_u < 25\text{ t}$<br>with 4 axles: $40\text{ t} \leq t_u < 50\text{ t}$<br>with 6 or more axles: $50\text{ t} \leq t_u < 60\text{ t}$ |
| l   | with bulk gravity unloading, bilateral, simultaneous,<br>high-level (3)   |
| ll  | with bulk gravity unloading, bilateral, simultaneous,<br>low-level (3)  |
| n   | with 2 axles: $t_u > 30\text{ t}$<br>with 3 axles: $t_u > 40\text{ t}$<br>with 4 axles: $t_u > 60\text{ t}$<br>with 6 or more axles: $t_u > 75\text{ t}$ (2)                |
| o   | with bulk gravity unloading, axial, high-level (3)  |
| oo  | with bulk gravity unloading, axial, low-level (3)   |
| p   | with controlled gravity unloading, axial, high-level (3)  |
| pp  | with controlled gravity unloading, axial, low-level (3)   |

(1) In particular:

- low-loader wagons
- wagons with a depressed central section ("well")

(2) The index letter "n" shall not be marked on wagons bearing index letter "i".

(3) Class U wagons that use gravity unloading are closed wagons that can only be loaded through one or more loading apertures situated at the upper part of the wagon body and whose total opening dimensions are less than the length of the body; these wagons do not have a flat floor and are not designed for side or end tipping. The method of unloading these wagons is defined by a combination of the following characteristics:

- Arrangement of the discharge openings:
  - axial: openings located above track centre line
  - bilateral: openings on both sides of the track, extending beyond rails
    - (for these wagons, unloading is
      - "bilateral, simultaneous" if complete emptying of the wagon requires the discharge openings to be open on both sides
      - "bilateral, side-selectable" if complete emptying of the wagon only requires the discharge openings on one side to be open)
  - high-level: lower edge of the discharge opening (without taking into account any mobile devices that may form an extension to the opening) is situated at least 0.700 m above the top of the rail and allows for the use of a conveyor belt to receive and remove the goods
  - low-level: position of the lower edge of the discharge opening does not allow for the use of a conveyor belt to receive and remove the goods.
- Rate of unloading:
  - Bulk unloading: Once the discharge openings are open for unloading, they cannot be closed again until the wagon is empty.
  - Controlled unloading: The discharge of the goods can be regulated or even stopped at any time during unloading.

## Z Tank wagons

### Reference wagon

- with a metal tank for transporting liquid or gaseous commodities
- with 2 axles:  $25\text{ t} \leq tu \leq 30\text{ t}$
- with 3 axles:  $25\text{ t} \leq tu \leq 40\text{ t}$
- with 4 axles:  $50\text{ t} \leq tu \leq 60\text{ t}$
- with 6 or more axles:  $60\text{ t} \leq tu \leq 75\text{ t}$

### Index letters

- a with 4 axles
- aa with 6 or more axles
- b for transporting petroleum products (2)
- c unloaded using compressed gas (1)
- d for transporting food and chemical products (2)
- e fitted with heating equipment
- f suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel)
- ff suitable only for traffic travelling to/from Great Britain via Channel Tunnel
- fff suitable only for traffic travelling to/from Great Britain on a train-ferry
- g for transporting compressed or liquefied gases or gases dissolved under pressure (1)
- i tank of non-metallic material
- j with shock-absorbing device
- k with 2 or 3 axles:  $tu < 20\text{ t}$   
with 4 axles:  $tu < 40\text{ t}$   
with 6 or more axles:  $tu < 50\text{ t}$
- kk with 2 or 3 axles:  $20\text{ t} \leq tu < 25\text{ t}$   
with 4 axles:  $40\text{ t} \leq tu < 50\text{ t}$   
with 6 or more axles:  $50\text{ t} \leq tu < 60\text{ t}$
- n with 2 axles:  $tu > 30\text{ t}$   
with 3 axles:  $tu > 40\text{ t}$   
with 4 axles:  $tu > 60\text{ t}$   
with 6 or more axles:  $tu > 75\text{ t}$
- p with station for brakeman (2)

(1) The index letter "c" shall not be marked on wagons bearing index letter "g".

(2) Only applicable to wagons with a gauge of 1520 mm.

# Classification codes for articulated wagons and multiple wagons

## 1. General information

In the following tables the loading length of the freight wagon is denoted by “lu”.

## 2. Index letters that are internationally valid for all wagon classes

- q with electrical heating line for all approved power supply systems
- qq with electrical heating line and heating equipment for all approved power supply systems
- s wagons approved for running under “s” conditions as defined in UIC leaflet 432

ss wagons approved for running under “ss” conditions as defined in UIC leaflet 432

## 3. National index letters

t, u, v, w, x, y, z (meaning defined by relevant national body)

| F  | Open wagons  |
|--|--|
| <b>Reference wagon</b>   |  |
| Articulated wagons or multiple wagons with 2 elements<br>22 m ≤ lu < 27 m  |  |
| <b>Index letters</b>   |  |
| a  | with bogies  |
| c  | with controlled gravity unloading, bilateral, side-selectable, high-level (1)          |
| cc   | with controlled gravity unloading, bilateral, side-selectable, low-level (1)           |
| e  | with 3 elements  |
| ee   | with 4 or more elements  |
| f  | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel) |
| ff   | suitable only for traffic travelling to/from Great Britain via Channel Tunnel          |
| fff  | suitable only for traffic travelling to/from Great Britain on a train-ferry            |
| l  | with bulk gravity unloading, bilateral, simultaneous, high-level (1)                   |
| ll   | with bulk gravity unloading, bilateral, simultaneous, low-level (1)                    |
| m  | loading length with 2 elements: lu ≥ 27 m  |
| mm   | loading length with 2 elements: lu < 22 m  |
| o  | with bulk gravity unloading, axial, high-level (1)                                     |
| oo   | with bulk gravity unloading, axial, low-level (1)                                      |
| p  | with controlled gravity unloading, axial, high-level (1)                               |
| pp   | with controlled gravity unloading, axial, low-level (1)                                |
| r  | articulated wagon  |
| rr   | multiple wagon   |
| <p>(1) Class F wagons with gravity unloading are open wagons that do not have a flat floor and have no tipping facility either at the end or the side.<br/>The method of unloading these wagons is defined by a combination of the following characteristics:</p> <ul style="list-style-type: none"> <li>■ Arrangement of the discharge openings:                             <ul style="list-style-type: none"> <li>- axial: openings located above track centre line</li> <li>- bilateral: openings on both sides of the track, extending beyond rails                                     <ul style="list-style-type: none"> <li>- (for these wagons, unloading is   <ul style="list-style-type: none"> <li>- “bilateral, simultaneous” if complete emptying of the wagon requires the discharge openings to be open on both sides</li> <li>- “bilateral, side-selectable” if complete emptying of the wagon only requires the discharge openings on one side to be open)</li> </ul> </li> </ul> </li> <li>- high-level: lower edge of the discharge opening (without taking into account any mobile devices that may form an extension to the opening) is situated at least 0.700 m above the top of the rail and allows for the use of a conveyor belt to receive and remove the goods</li> <li>- low-level: position of the lower edge of the discharge opening does not allow for the use of a conveyor belt to receive and remove the goods</li> </ul> </li> <li>■ Rate of unloading:                             <ul style="list-style-type: none"> <li>- Bulk unloading: Once the discharge openings are open for unloading, they cannot be closed again until the wagon is empty.</li> <li>- Controlled unloading: The discharge of the goods can be regulated or even stopped at any time during unloading.</li> </ul> </li> </ul> |  |

| H  | Covered wagons   |
|--|--|
| <b>Reference wagon</b>   |  |
| Articulated wagons or multiple wagons with 2 elements<br>22 m ≤ lu < 27 m  |  |
| <b>Index letters</b>   |  |
| a  | with bogies  |
| c  | with end doors   |
| cc   | with end doors and internal fittings for transporting motor vehicles                   |
| d  | with floor traps   |
| e  | with 3 elements  |
| ee   | with 4 or more elements  |
| f  | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel) |
| ff   | suitable only for traffic travelling to/from Great Britain via Channel Tunnel          |
| fff  | suitable only for traffic travelling to/from Great Britain on a train-ferry            |
| g  | for grain  |
| h  | for early vegetables (1)   |
| i  | with opening side walls  |
| ii   | with high-strength opening side walls (3)  |
| l  | with movable partitions (2)  |
| ll   | with lockable partitions (2)   |
| m  | loading length with 2 elements: ≥ 27 m   |
| mm   | loading length with 2 elements: < 22 m   |
| r  | articulated wagon  |
| rr   | multiple wagon   |
| <p>(1) The term “for early vegetables” applies only to wagons provided with additional ventilation apertures at floor level.<br/>(2) Movable partitions may be removed temporarily.<br/>(3) Only applicable to wagons with a gauge of 1435 mm.</p> |  |



## I Temperature-controlled wagons

### Reference wagon

Refrigerator wagon with class IN thermal insulation, with motor-driven ventilation, floor-level grating and ice bunkers ( $\geq 3.5 \text{ m}^3$  or larger)  
Articulated wagons or multiple wagons with 2 elements  
 $22 \text{ m} \leq \text{lu} < 27 \text{ m}$

### Index letters

|     |  |
|-----|--|
| a   | with bogies  |
| c   | with meat hooks  |
| d   | for sea fish   |
| e   | with electric ventilation  |
| ee  | with 4 or more elements  |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel)         |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel                  |
| fff | suitable only for traffic travelling to/from Great Britain on a train-ferry                    |
| g   | with mechanical refrigeration (1)  |
| gg  | with liquid gas refrigeration (1)  |
| h   | with class IR thermal insulation   |
| i   | refrigerator wagon cooled by a refrigeration unit in an accompanying technical trailer (1) (3) |
| ii  | technical trailer (1) (3)  |
| l   | insulated wagon without ice bunkers (1) (2)  |
| m   | loading length with 2 elements: $\text{lu} \geq 27 \text{ m}$                                  |
| mm  | loading length with 2 elements: $\text{lu} < 22 \text{ m}$                                     |
| o   | with ice bunkers of capacity less than $3.5 \text{ m}^3$ (3)                                   |
| oo  | with 3 elements  |
| p   | without floor-level grating  |
| r   | articulated wagon  |
| rr  | multiple wagon   |

- (1) The index letter "l" shall not be marked on wagons bearing the index letters "g", "gg", "i" or "ii".
- (2) The index letter "o" shall not be marked on wagons bearing the index letter "l".
- (3) The term "technical trailer" may apply to equipment wagons, workshop wagons (in both cases, either with or without sleeping accommodation) and dormitory wagons.

## L Flat wagons with separate axles

### Reference wagon

Articulated wagons or multiple wagons with two elements  
 $22 \text{ m} \leq \text{lu} < 27 \text{ m}$

### Index letters

|     |  |
|-----|--|
| a   | articulated wagon  |
| aa  | multiple wagon   |
| b   | flat wagon for medium-sized containers (pa) (1) (2)                                    |
| c   | with pivot bolster (2)   |
| d   | for transporting motor vehicles on one level (2)                                       |
| e   | with more than one deck for transporting motor vehicles (2)                            |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel) |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel          |
| fff | suitable only for traffic travelling to/from Great Britain on a train-ferry            |
| g   | for container transport (2) (3)  |
| h   | for sheet metal coils loaded eye-to-side (2) (4)                                       |
| hh  | for sheet metal coils loaded eye-to-sky (2) (4)  |
| i   | with movable top cover and fixed end walls (2)   |
| ii  | with high-strength movable metal cover (5) and fixed end walls (2)                     |

|    |  |
|----|--|
| j  | with shock-absorbing device  |
| l  | without stanchions (2)   |
| m  | loading length with 2 elements: $18 \text{ m} \leq \text{lu} < 22 \text{ m}$ |
| mm | loading length with 2 elements: $\text{lu} < 18 \text{ m}$                   |
| o  | with 3 elements  |
| oo | with 4 or more elements  |
| p  | without boards (2)   |
| r  | loading length with 2 elements: $\text{lu} \leq 27 \text{ m}$                |

- (1) For containers with running gear in accordance with UIC leaflet 590.
- (2) The index letters "l" or "p" can be optionally marked on wagons bearing the index letters "b", "c", "d", "e", "g", "h", "hh", "i" or "ii". However, the numerical code on the wagon must always correspond to the wagon's letter markings.
- (3) Wagons used solely for transporting containers (except medium sized "pa" containers).
- (4) Wagons used solely for transporting sheet metal coils.
- (5) Only applicable to wagons with a gauge of 1435 mm.

## S Bogie flat wagons

### Reference wagon

Articulated wagons or multiple wagons with two elements  
 $22 \text{ m} \leq \text{lu} < 27 \text{ m}$

### Index letters

|     |  |
|-----|--|
| b   | flat wagon for medium-sized containers (pa) (1) (2)  |
| c   | with pivot bolster (2)   |
| d   | for transporting motor vehicles on one level (2) (4)   |
| e   | with more than one deck for transporting motor vehicles (2)  |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel)                       |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel                                |
| fff | suitable only for traffic travelling to/from Great Britain on a train-ferry                                  |
| g   | for transporting large containers up to 60 feet in length (except medium sized "pa" containers). (2) (3) (4) |
| gg  | for transporting large containers over 60 feet in length (except medium sized "pa" containers). (2) (3) (4)  |
| h   | for sheet metal coils loaded eye-to-side (2) (5)   |
| hh  | for sheet metal coils loaded eye-to-sky (2) (5)  |
| i   | with movable top cover and fixed end walls (2)   |
| ii  | with high-strength movable metal cover (6) and fixed end walls (2)   |
| j   | with shock-absorbing device  |
| l   | without stanchions (2)   |
| m   | loading length with 2 elements: $\text{lu} \leq 27 \text{ m}$  |
| mm  | loading length with 2 elements: $\text{lu} \leq 22 \text{ m}$  |
| o   | with 3 elements  |
| oo  | with 4 or more elements  |
| p   | without boards (2)   |
| r   | articulated wagon  |
| rr  | multiple wagon   |

- (1) For containers with running gear in accordance with UIC leaflet 590.
- (2) The index letters "l" or "p" can be optionally marked on wagons bearing the index letters "b", "c", "d", "e", "g", "gg", "h", "hh", "i" or "ii". However, the numerical code on the wagon must always correspond to the wagon's letter markings.
- (3) Wagons used solely for transporting containers or for transporting swap bodies in accordance with the provisions of UIC leaflet 592-4.
- (4) Wagons that in addition to transporting containers and swap bodies can be used to transport vehicles shall be marked with the index letters "g" or "gg" and the letter "d".
- (5) Wagons used solely for transporting sheet metal coils.
- (6) Only applicable to wagons with a gauge of 1435 mm.

## T Wagons with an opening roof

### Reference wagon

Articulated wagons or multiple wagons with two elements  
 $22\text{ m} \leq l_u < 27\text{ m}$

### Index letters

|     |  |
|-----|--|
| a   | with bogies  |
| b   | with height of door openings over 1.90 m (1)   |
| c   | with end doors   |
| d   | with controlled gravity unloading, bilateral, side-selectable, high-level (1) (2)      |
| dd  | with controlled gravity unloading, bilateral, side-selectable, low-level (1) (2)       |
| e   | with 3 elements  |
| ee  | with 4 or more elements  |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel) |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel          |
| fff | suitable only for traffic travelling to/from Great Britain on a train-ferry            |
| g   | for grain  |
| h   | for sheet metal coils loaded eye-to-side   |
| hh  | for sheet metal coils loaded eye-to-sky  |
| i   | with opening side walls (1)  |
| j   | with shock-absorbing device  |
| l   | with bulk gravity unloading, bilateral, simultaneous, high-level (1) (2)               |
| ll  | with bulk gravity unloading, bilateral, simultaneous, low-level (1) (2)                |
| m   | loading length with 2 elements: $l_u \geq 27\text{ m}$                                 |
| mm  | loading length with 2 elements: $l_u < 22\text{ m}$                                    |
| o   | with bulk gravity unloading, axial, high-level (1) (2)                                 |
| oo  | with bulk gravity unloading, axial, low-level (1) (2)                                  |
| p   | with controlled gravity unloading, axial, high-level (1) (2)                           |
| pp  | with controlled gravity unloading, axial, low-level (1) (2)                            |
| r   | articulated wagon  |
| rr  | multiple wagon   |

(1) The index letter "b" shall not be marked on wagons bearing the index letters "d", "dd", "i", "j", "ll", "o", "oo", "p" or "pp".

(2) Class T wagons that use gravity unloading have an opening roof that provides access to the loading area over the entire length of the wagon body; these wagons do not have a flat floor and are not designed for side or end tipping.

The method of unloading these wagons is defined by a combination of the following characteristics:

- Arrangement of the discharge openings:
  - axial: openings located above track centre line
  - bilateral: openings on both sides of the track, extending beyond rails
    - (for these wagons, unloading is
      - "bilateral, simultaneous" if complete emptying of the wagon requires the discharge openings to be open on both sides
      - "bilateral, side-selectable" if complete emptying of the wagon only requires the discharge openings on one side to be open)
  - high-level: lower edge of the discharge opening (without taking into account any mobile devices that may form an extension to the opening) is situated at least 0.700 m above the top of the rail and allows for the use of a conveyor belt to receive and remove the goods
  - low-level: position of the lower edge of the discharge opening does not allow for the use of a conveyor belt to receive and remove the goods
- Rate of unloading:
  - Bulk unloading: Once the discharge openings are open for unloading, they cannot be closed again until the wagon is empty.
  - Controlled unloading: The discharge of the goods can be regulated or even stopped at any time during unloading.

## U Special wagons

### Reference wagon

Articulated wagons or multiple wagons with two elements  
 $22\text{ m} \leq l_u < 27\text{ m}$

### Index letters

|     |   |
|-----|---|
| a   | with bogies   |
| c   | unloaded using compressed gas   |
| d   | with controlled gravity unloading, bilateral, side-selectable, high-level (2)                   |
| dd  | with controlled gravity unloading, bilateral, side-selectable, low-level (2)                    |
| e   | with 3 elements   |
| ee  | with 4 or more elements   |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel)          |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel                   |
| fff | suitable only for traffic travelling to/from Great Britain on a train-ferry                     |
| g   | for grain   |
| i   | for transporting objects that would exceed the loading gauge if loaded onto ordinary wagons (1) |
| l   | with bulk gravity unloading, bilateral, simultaneous, high-level (2)                            |
| ll  | with bulk gravity unloading, bilateral, simultaneous, low-level (2)                             |
| m   | loading length with 2 elements: $l_u \geq 27\text{ m}$  |
| mm  | loading length with 2 elements: $l_u < 22\text{ m}$   |
| o   | with bulk gravity unloading, axial, high-level (2)  |
| oo  | with bulk gravity unloading, axial, low-level (1) (2)   |
| p   | with controlled gravity unloading, axial, high-level (2)  |
| pp  | with controlled gravity unloading, axial, low-level (2)   |
| r   | articulated wagon   |
| rr  | multiple wagon  |

(1) In particular:

- low-loader wagons
- wagons with a depressed central section ("well")

(2) Class U wagons that use gravity unloading are closed wagons that can only be loaded through one or more loading apertures situated at the upper part of the wagon body and whose total opening dimensions are less than the length of the body; these wagons do not have a flat floor and are not designed for side or end tipping.

The method of unloading these wagons is defined by a combination of the following characteristics:

- Arrangement of the discharge openings:
  - axial: openings located above track centre line
  - bilateral: openings on both sides of the track, extending beyond rails
    - (for these wagons, unloading is
      - "bilateral, simultaneous" if complete emptying of the wagon requires the discharge openings to be open on both sides
      - "bilateral, side-selectable" if complete emptying of the wagon only requires the discharge openings on one side to be open)
  - high-level: lower edge of the discharge opening (without taking into account any mobile devices that may form an extension to the opening) is situated at least 0.700 m above the top of the rail and allows for the use of a conveyor belt to receive and remove the goods
  - low-level: position of the lower edge of the discharge opening does not allow for the use of a conveyor belt to receive and remove the goods
- Rate of unloading:
  - Bulk unloading: Once the discharge openings are open for unloading, they cannot be closed again until the wagon is empty.
  - Controlled unloading: The discharge of the goods can be regulated or even stopped at any time during unloading.

## Z Tank wagons

### Reference wagon

with a metal tank for transporting liquid or gaseous commodities  
articulated wagons or multiple wagons  
 $22\text{ m} \leq l_u < 27\text{ m}$

### Index letters

|     |  |
|-----|--|
| a   | with bogies  |
| c   | unloaded using compressed gas (1)  |
| e   | fitted with heating equipment  |
| f   | suitable for traffic travelling to/from Great Britain (train-ferry and Channel Tunnel) |
| ff  | suitable only for traffic travelling to/from Great Britain via Channel Tunnel          |
| fff | suitable only for traffic travelling to/from Great Britain on a train-ferry            |
| g   | for transporting compressed or liquefied gases or gases dissolved under pressure (1)   |
| i   | tank of non-metallic material  |
| j   | with shock-absorbing device  |
| m   | loading length with 2 elements: $l_u \geq 27\text{ m}$                                 |
| mm  | loading length with 2 elements: $l_u < 22\text{ m}$                                    |
| o   | with bulk gravity unloading, axial, high-level (2)                                     |
| oo  | with bulk gravity unloading, axial, low-level (2)                                      |
| r   | articulated wagon  |
| rr  | multiple wagon   |

(1) The index letter "c" shall not be marked on wagons bearing index letter "g".

## Meaning of national code letters used on freight wagons operated by DB Schenker Rail Deutschland AG

| Code letter | Wagon type          | Meaning   |
|-------------|---------------------|---|
| t           | Ealos               | with raised fixed end walls   |
|             | Roos                | with lower-lying stanchion pockets and variable distances between stanchions  |
|             | Sahmms              | with load securing system to prevent coils from shifting laterally  |
|             | Sahlmmps<br>Shimmns | with special load-retaining equipment to secure bundled slit strip coils  |
| tt          | Hbis, Hbins, Hirrs, | large-capacity, covered wagons or multiple wagons   |
|             | Himrrs-tt           | that exceed the G2 vehicle gauge, with a lockable partition in each wagon   |
| tu          | Shimmns             | with special load-retaining equipment to secure bundled slit strip coils and lining of loading troughs with fabric-reinforced rubber mats                         |
| ttu         | Shimmns             | with special continuously adjustable load-retaining equipment to secure bundled slit strip coils and lining of loading troughs with fabric-reinforced rubber mats |
| u           | Rs                  | Ladelänge 20,70 m   |
|             | Samm(s)             | with hinged end and side boards   |
|             | Shimmns             | and lining of loading troughs   |
|             | Sahimms             | with fabric-reinforced rubber mats  |
|             | Slps                | for transporting extra-wide sheet metal   |

| Code letter | Wagon type         | Meaning  |
|-------------|--------------------|--|
| v           | Tdgs, Tadgs        | for food transport only  |
| w           | Rgs                | with machine-finished container twistlocks (planning/scheduling: BTS Kombiwaggon Service GmbH) |
| ww          | Hbis               | with spark-arrester shields as detailed in UIC leaflet 543                                     |
| x           | Ea(l)(o)s, Ea(n)os | with steel floor   |
|             | Fal(n)s            | with air-efficient pneumatic control   |
|             | Fcs                | for transporting coal only   |
|             | Hbills             | with two reinforced lockable partitions  |
|             | Kls                | primarily for use in construction work   |
|             | Talns              | for transporting salt only   |
|             | Tamns              | for transporting potassium chloride only   |
| y           | Falns              | for transporting calcareous sandstone only   |
|             | Rils, Rs           | for transporting wire coils  |
|             | Tds, Tdgs, Tadgs,  | with special inner coating   |
|             | Taoos, Uaoos       |  |
| z           | F(s)               | tipping bucket wagon   |
|             | Falns              | with shortened boards  |
|             | Rns                | loading length 21 m  |
|             | Tdgs               | used as Tds or Tdgs wagon  |
| zz          | Fb                 | bucket wagon   |

# Wagon type numbers and their meanings

The freight wagon classification code comprises the class letter and the index letter(s).

The classification code identifies the most important technical characteristics of a freight wagon, which are also encrypted in the 12-digit wagon number.

The following table has been designed to help you determine the class of wagon and the wagon's freight carrying characteristics from the wagon type number, i.e. from digits 5 to 8 of the UIC wagon number.

Prototypes and wagons that have only been produced in low quantities are only listed in part.

## Class T

| UIC wagon type number | UIC wagon classification code | DB-specific type numbers |
|-----------------------|-------------------------------|--------------------------|
| 0148                  | Tdgs-v                        | 930, 932                 |
| 0651                  | Tagnoos                       | 898                      |
| 0663                  | Tal                           | 963, 964                 |
| 0665                  | Talns                         | 968, 969, 970            |
| 0667, 0668            | Tals                          | 963, 966, 967            |
| 0691                  | Tanoos                        | 896                      |
| 0695                  | Taoot-y                       | 894                      |
| 0720-0723             | Tds                           | 930, 941, 942            |
| 0730-0739             | Tds                           | 925, 926, 932, 940       |
| 0740-0745             | Tdgs(-z)                      | 930, 932                 |
| 0749                  | Tdgs-z                        | 932                      |
| 0780-0781             | Tbis                          | 871, 875                 |
| 0803                  | Tamns                         | 895                      |
| 0806                  | Tamns                         | 886, 893                 |
| 0819-0821             | Tads(-y)                      | 957, 958                 |
| 0823-0824             | Tadgs-y                       | 957, 958                 |
| 0826                  | Tadgs                         | 957                      |
| 0834-0835             | Tads                          | 960, 961                 |
| 0843                  | Tadgs-v                       | 959                      |
| 0843-0844             | Tadgs                         | 959                      |
| 0847                  | Taems                         | 889                      |
| 0851-0853             | Taems                         | 892                      |

## Class H

| UIC wagon type number | UIC wagon classification code | DB-specific type numbers |
|-----------------------|-------------------------------|--------------------------|
| 2250                  | Hbis                          | 294, 295                 |
| 2253-2260             | Hbis-ww                       | 299                      |
| 2261                  | Hbis-tt                       | 293                      |
| 2262                  | Hbins-tt                      | 292                      |
| 2275-2277             | Hbills-x                      | 295, 299                 |
| 2350-2355             | Hbils                         | 299                      |
| 2457-2459             | Hbillns                       | 305                      |
| 2462                  | Hbillns                       | 305                      |
| 2468                  | Hbbins-tt                     | 309                      |
| 2469-2470             | Hbbins                        | 306                      |
| 2472-2474             | Hbillns                       | 302, 303                 |
| 2475                  | Hbbills                       | 310                      |
| 2476                  | Hbbills                       | 311                      |
| 2740                  | Habbiins                      | 344                      |
| 2752                  | Habis                         | 339                      |
| 2767                  | Habbis                        | 345                      |
| 2770-2771             | Habbins                       | (AAE)                    |
| 2777                  | Habbills                      | 346                      |
| 2780                  | Habbillns                     | (AAE)                    |
| 2914                  | Hcceerrs                      | 330                      |
| 2921                  | Hirrs-tt                      | 325                      |
| 2926                  | Himrrs-tt                     | 326                      |
| 2940                  | Hirrs-tt                      | 324                      |

## Class K and R

| UIC wagon type number | UIC wagon classification code | DB-specific type numbers |
|-----------------------|-------------------------------|--------------------------|
| 3300-3301             | Ks                            | 446, 447                 |
| 3330-3348             | Kbs                           | 442, 443                 |
| 3360-3369             | Kls                           | 442, 443                 |
| 3384                  | Kijls                         | 450                      |
| 3390                  | Klps                          | 444                      |
| 3467-3468             | Kls-x                         | 448                      |
| 3507                  | Rbns                          | 641, 646                 |
| 3525                  | Roos(-t)                      | 639, 642, 645            |
| 3536                  | Rijmms                        | 660                      |
| 3540                  | Rils                          | 652                      |
| 3541                  | Rils-y                        | 649                      |
| 3546                  | Rilns                         | 654                      |
| 3553                  | Rins                          | 655                      |
| 3560                  | Rgs-w                         | 672                      |
| 3801                  | Rs-u                          | 659                      |
| 3900-3909             | Rs                            | 680, 684                 |
| 3911                  | Rs-y                          | 667                      |
| 3913-3915             | Rs                            | 685, 689                 |
| 3933                  | Rps                           | 688                      |
| 3936-3944             | Res                           | 675, 676, 677, 686, 687  |
| 3948                  | Remms                         | 665                      |
| 3960-3965             | Rmms                          | 662, 663, 664            |
| 3991                  | Rns-z                         | 643                      |
| 3994                  | Rlmmms                        | 651                      |
| 3997-3998             | Res                           | 640, 678                 |

**Class L and S**

| UIC wagon type number | UIC wagon classification code | DB-specific type numbers |
|-----------------------|-------------------------------|--------------------------|
| 4254                  | Laekks                        | 547                      |
| 4255-4256             | Laekks                        | 551                      |
| 4256                  | Laekks                        | 552                      |
| 4261                  | Laekkqs                       | 547                      |
| 4293                  | Laes                          | 559                      |
| 4351                  | Laaes                         | 556                      |
| 4354                  | Laadr                         | 557                      |
| 4363                  | Laaers                        | 558                      |
| 4365-4367             | Laaeks                        | 553                      |
| 4425-4427             | Lgs                           | 579, 580                 |
| 4432                  | Lgns                          | 581                      |
| 4503                  | Sgmns                         | 750                      |
| 4508                  | Sgmnns                        | 738                      |
| 4509                  | Sdgkms                        | 707                      |
| 4512                  | Sdgmns                        | 743                      |
| 4515-4516             | Sgjkmmms                      | 699                      |
| 4522-4523             | Sgkkms(s)                     | 698                      |
| 4533                  | Sgjmms                        | 737                      |
| 4536, 4539            | Sgjs                          | 712                      |
| 4550                  | Sgss                          | 703                      |
| 4552                  | Sgnss                         | 735 (AAE)                |
| 4556                  | Sgns                          | 691                      |
| 4557                  | Sgns                          | 692 (AAE)                |
| 4578                  | Sgmns                         | 731                      |
| 4668-4671             | Shimmns-u                     | 708                      |
| 4672                  | Shimmns-tu                    | 718                      |
| 4674                  | Shimmns-ttu                   | 723                      |
| 4675                  | Shimmns-ttu                   | 722                      |
| 4676                  | Shimmns-u                     | 708                      |
| 4712                  | Sns                           | 727                      |
| 4723-4724             | Snps                          | 719                      |
| 4725                  | Snps-x                        | 719                      |
| 4726                  | Slps-u                        | 725                      |
| 4777                  | Shimmns-t                     | 708                      |
| 4816                  | Salms                         | 454                      |
| 4827                  | Sammnps                       | 706                      |
| 4836                  | Salmmnps                      | 706                      |
| 4838                  | Sahlmmps(-t)                  | 706, 713                 |
| 4861-4865             | Samms                         | 709, 710                 |
| 4866-4867             | Samms-u                       | 454                      |
| 4868-4871             | Sahmms(-t)                    | 709, 710, 711            |
| 4876-4877             | Sahimms(-u)                   | 900, 901                 |
| 4953                  | Sggmrs                        | 714                      |
| 4953-4954             | Sggmrs                        | 715, 747 (AAE)           |
| 4955                  | Sdggmrs                       | 739, 744                 |
| 4956                  | Sdggmrss                      | 736 (AAE)                |
| 4983                  | Saadkkms                      | 690                      |

**Class E**

| UIC wagon type number | UIC wagon classification code | DB-specific type numbers |
|-----------------------|-------------------------------|--------------------------|
| 5246-5248             | Es                            | 027                      |
| 5330                  | Eaos-x                        | 051                      |
| 5341-5347             | Eaos                          | 106                      |
| 5358-5359             | Eaos-x                        | 051                      |
| 5360-5369             | Eaos-x                        | 075                      |
| 5375                  | Eanos-x                       | 059                      |
| 5376-5377             | Eanos-x                       | 052, 055, 056            |
| 5400, 5403            | Eaos-x                        | 057                      |
| 5419                  | Eans                          | 069                      |
| 5420-5426             | Eas(-x)                       | 061, 066, 067, 073       |
| 5927-5928             | Ealos(-x)                     | 053                      |
| 5931                  | Ealos-t                       | 058                      |
| 5947                  | Eas                           | 074                      |
| 5949                  | Eas(-x)                       | 066                      |

**Class F**

| UIC wagon type number | UIC wagon classification code | DB-specific type numbers |
|-----------------------|-------------------------------|--------------------------|
| 6453-6457             | Fcs                           | 088, 092                 |
| 6459-6463             |                               |                          |
| 6458                  | Fcs-x                         | 092                      |
| 6472                  | Fcns                          | 091                      |
| 6634                  | Falns-x                       | 165                      |
| 6635-6646             | Falns                         | 165, 180, 182, 183, 121  |
| 6647                  | Falnqq                        | 130                      |
| 6648                  | Facns                         | 141                      |
| 6650-6652             | Fals                          | 175, 176                 |
| 6656-6657             | Fals(-x)                      | 164                      |
| 6658-6659             | Fals                          | 185, 186                 |
| 6664-6665             | Faals                         | 150, 151                 |
| 6734                  | Fas                           | 126                      |
| 6770                  | Fans                          | 128                      |
| 6861                  | Falrrs                        | 153                      |
| 6941                  | Facs                          | 124                      |
| 6948                  | Facns                         | 133                      |

**Class U**

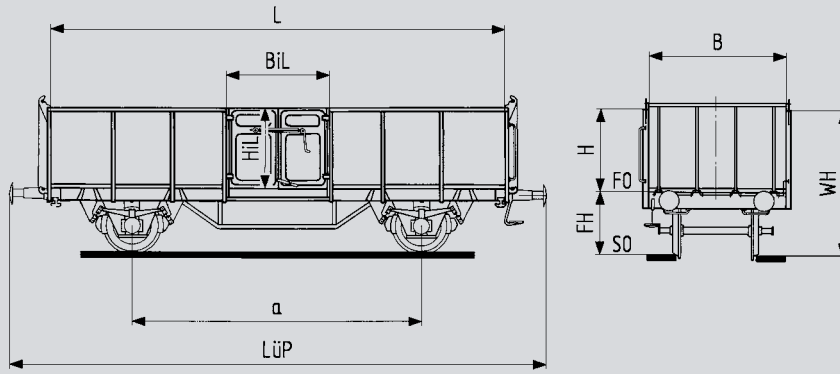
| UIC wagon type number | UIC wagon classification code | DB-specific type numbers |
|-----------------------|-------------------------------|--------------------------|
| 9105-9108             | Ucs                           | 908, 909                 |
| 9330-9331             | Uaocs-y                       | 948                      |

# Open wagons



Eanos-x 059

Es wagons and Ea(n)(o)s wagons are used to transport a wide variety of goods both in bulk form (coal, briquettes, scrap metal, ores, rubble and rock, aggregate, sand, etc.) and in packaged form (bales, packages, barrels, round timber, rod iron, etc.). The wagons have an open-top, box-shaped storage space with a wooden or steel floor depending on design. Rings attached to the outside of the wagon enable sheets or tarpaulin covers (see page 11) to be fastened to prevent the freight from getting wet or to prevent wind losses from bulk goods. To secure lightweight loose scrap, Ea(n)(o)s-x wagons (wagons with a steel floor) are fitted with hooks below the top chords to allow wire netting covers to be fastened. In order to withstand the heavy-duty stresses experienced in scrap metal transport, some of the wagons in the Ea wagon fleet have been specially equipped with reinforced walls and floors and fitted out with guards to protect the wagon's control equipment. The new Ealos-t wagons have been designed especially for transporting timber and feature higher end walls and ratchet straps for securely lashing down the load.



| UIC wagon classification code and DB-specific type number |  |                |      | Es 027   |   |   |         |             |         |             |      |      |
|---|--|----------------|------|--|---|---|---------|-------------|---------|-------------|------|------|
| Loading Length  | L  | mm             |      | 8760   |   |   |         |             |         |             |      |      |
| Loading width   | B  | mm             |      | 2760   |   |   |         |             |         |             |      |      |
| Loading height  | H  | mm             |      | 1500   |   |   |         |             |         |             |      |      |
| Floor area  |  | m <sup>2</sup> |      | 24.0   |   |   |         |             |         |             |      |      |
| Load capacity   |  | m <sup>3</sup> |      | 36.0   |   |   |         |             |         |             |      |      |
| Side-wall access  |  |                |      |  |   |   |         |             |         |             |      |      |
|   | Width  | BiL            | mm   | 1800   |   |   |         |             |         |             |      |      |
|   | Height   | HiL            | mm   | no upper limit   |   |   |         |             |         |             |      |      |
| Floor height  | FH   | mm             |      | 1240   |   |   |         |             |         |             |      |      |
| Height of wagon   | WH   | mm             |      | 2740   |   |   |         |             |         |             |      |      |
| Number of axles   |  |                |      | 2  |   |   |         |             |         |             |      |      |
| Distance between axles                                    | a  | mm             |      | 6000   |   |   |         |             |         |             |      |      |
| End platform  |  |                |      | No   |   |   |         |             |         |             |      |      |
| Length over buffers                                       | LüP  | mm             |      | 10000  |   |   |         |             |         |             |      |      |
| Average tare weight of wagon                              |  | kg             |      | 13000  |   |   |         |             |         |             |      |      |
| Load limits   |  | t              |      | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>19.0</td> <td>23.0</td> <td>27.0</td> </tr> </tbody> </table>              |   | A | B       | C           | S       | 19.0        | 23.0 | 27.0 |
|   | A  | B              | C    |  |   |   |         |             |         |             |      |      |
| S   | 19.0   | 23.0           | 27.0 |  |   |   |         |             |         |             |      |      |
| Concentrated loads  |  |                |      | <table border="1"> <thead> <tr> <th>m</th> <th>t</th> </tr> </thead> <tbody> <tr> <td>a-a 1.5</td> <td>14.0   14.0</td> </tr> <tr> <td>b-b 3.0</td> <td>16.0   18.0</td> </tr> </tbody> </table> | m | t | a-a 1.5 | 14.0   14.0 | b-b 3.0 | 16.0   18.0 |      |      |
| m   | t  |                |      |  |   |   |         |             |         |             |      |      |
| a-a 1.5   | 14.0   14.0  |                |      |  |   |   |         |             |         |             |      |      |
| b-b 3.0   | 16.0   18.0  |                |      |  |   |   |         |             |         |             |      |      |
| Note about information in load limit panels               | As a result of the different technical configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here. |                |      |  |   |   |         |             |         |             |      |      |

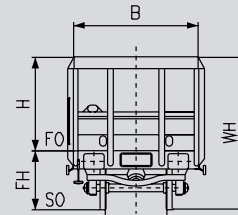
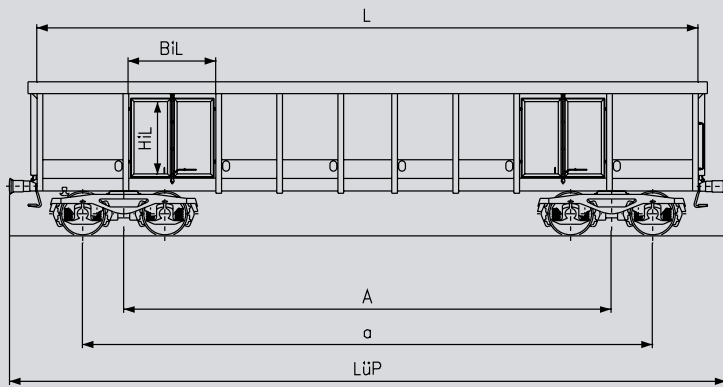
# Open wagons



Eanos-x 059

| UIC wagon classification code and DB-specific type number |  |                |  | Eaos-x 051 <sup>1)</sup><br>Eaos-x 075 <sup>1) 3) 4)</sup><br>Eaos 106 <sup>2) 3)</sup> |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
|---|--|----------------|--|---|--|--|---|----|-----|-----|-------------|------|------|-------------|------|-----|-------------|--|--|--|
| Loading length  | L  | mm             | 12792  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Loading width   | B  | mm             | 2760   |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Loading height  | H  | mm             | 2020 <sup>2)</sup> 2060 <sup>1)</sup>  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Floor area  |  | m <sup>2</sup> | 35.3   |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Load capacity   |  | m <sup>3</sup> | 71.3 <sup>2)</sup> 72.0 <sup>1)</sup>  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Side-wall access  | Width  | BiL            | mm   | 1800  |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
|   | Height   | HiL            | mm   | 1800  |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Floor height  | FH   | mm             | 1235 <sup>2)</sup> 1195 <sup>1)</sup>  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Height of wagon   | WH   | mm             | 3255   |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Number of axles   |  |                | 4  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Distance between bogie pivots                             | A  | mm             | 9000   |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Distance between outer axles                              | a  | mm             | 10800  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| End platform  |  |                | yes  | no  |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Length over buffers                                       | LüP  | mm             | 14290  | 14040   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Average tare weight of wagon                              |  | kg             | 22250  | 21690   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Load limits   |  | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>42.0</td> <td>48.0</td> <td>50.0</td> <td>58.0</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table>                                     |   |  |  | A | B1 | B2  | C   | S           | 42.0 | 48.0 | 50.0        | 58.0 | 120 | 0.00        |  |  |  |
|   | A  | B1             | B2   | C   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| S   | 42.0   | 48.0           | 50.0   | 58.0  |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| 120   | 0.00   |                |  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Concentrated loads  |  |                | <sup>3)</sup> <table border="1"> <thead> <tr> <th></th> <th>m</th> <th>t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3.0</td> <td>23.0   26.0</td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>27.0   30.0</td> </tr> <tr> <td>c-c</td> <td>9.0</td> <td>39.0   58.0</td> </tr> </tbody> </table> |   |  |  | m | t  | a-a | 3.0 | 23.0   26.0 | b-b  | 5.0  | 27.0   30.0 | c-c  | 9.0 | 39.0   58.0 |  |  |  |
|   | m  | t              |  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| a-a   | 3.0  | 23.0   26.0    |  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| b-b   | 5.0  | 27.0   30.0    |  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| c-c   | 9.0  | 39.0   58.0    |  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Note about information in load limit panels               | As a result of different technical configurations of these wagons, the markings    |                |  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |
| Special features  | <sup>4)</sup> Fitted with only two side doors positioned diagonally to one another |                |  |   |  |  |   |    |     |     |             |      |      |             |      |     |             |  |  |  |





| Eanos-x 052, Eanos-x 055,<br>Eanos-x 056, Eanos-x 059 <sup>1)</sup>   |       | Ealos-x 053 | Eaos-x 057 | Ealos-t 058        |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
|---|-------|-------------|------------|--------------------|-----|------|-----|------|------|---|------|------|------|-----|------|------|--|-----|-------|------|----|---|---|---|------|------|------|------|------|------|-----|------|-----|--|------|--|---|----|----|---|---|------|------|------|------|-----|------|------|------|-----|--|------|------|--|----|----|---|---|------|------|------|------|------|------|-----|------|------|-----|-----|------|------|
| 14492   |       | 12800       | 12800      | 12800              |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 2720  |       | 2760        | 2760       | 2760               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 2100  |       | 2460        | 2100       | 2100 <sup>1)</sup> |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 39.4  |       | 35.0        | 35.0       | 35.0               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 82.5  |       | 86.0        | 72.0       | 72.0               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 1800  |       | 1800        | 1800       | 1800               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 1800  |       | 1900        | 1900       | 1900               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 1235  |       | 1270        | 1200       | 1240               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 3335  |       | 3730        | 3340       | 4255               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 4   |       | 4           | 4          | 4                  |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 10700   |       | 8500        | 9000       | 9000               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 12500   |       | 10300       | 10800      | 10800              |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| yes   | no    | no          | no         | no                 |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 15990   | 15740 | 14040       | 14040      | 14040              |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 24500   | 24090 | 23200       | 22300      | 23700              |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>39.5</td> <td>47.5</td> <td>57.5</td> <td>65.5</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table>  |       |             | A          | B                  | C   | D    | S   | 39.5 | 47.5 | 57.5  | 65.5 | 120  | 0.00 |     |      |      | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>40.5</td> <td>46.5</td> <td>48.5</td> <td>53.5</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table> |     |       | A    | B1 | B2  | D | S | 40.5 | 46.5 | 48.5 | 53.5 | 120  | 0.00 |     |      |     | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>41.5</td> <td>47.5</td> <td>49.5</td> <td>57.5</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table> |      |  | A | B1 | B2 | C | S | 41.5 | 47.5 | 49.5 | 57.5 | 120 | 0.00 |      |      |     | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>41.5</td> <td>47.5</td> <td>49.5</td> <td>54.5</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table> |      |      | A  | B1 | B2 | C | S | 41.5 | 47.5 | 49.5 | 54.5 | 120  | 0.00 |     |      |      |     |     |      |      |
|   | A     | B           | C          | D                  |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| S   | 39.5  | 47.5        | 57.5       | 65.5               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 120   | 0.00  |             |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
|   | A     | B1          | B2         | D                  |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| S   | 40.5  | 46.5        | 48.5       | 53.5               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 120   | 0.00  |             |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
|   | A     | B1          | B2         | C                  |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| S   | 41.5  | 47.5        | 49.5       | 57.5               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 120   | 0.00  |             |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
|   | A     | B1          | B2         | C                  |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| S   | 41.5  | 47.5        | 49.5       | 54.5               |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 120   | 0.00  |             |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| <table border="1"> <thead> <tr> <th></th> <th>DB</th> <th>CM</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>59.5</td> <td></td> </tr> </tbody> </table>  |       |             | DB         | CM                 | 100 | 59.5 |     |      |      | <table border="1"> <thead> <tr> <th></th> <th>DB</th> <th>CM</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>61.5</td> <td></td> <td></td> </tr> </tbody> </table> |      |      | DB   | CM  | D    | 100  | 61.5   |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
|   | DB    | CM          |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 100   | 59.5  |             |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
|   | DB    | CM          | D          |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| 100   | 61.5  |             |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| <table border="1"> <thead> <tr> <th></th> <th>m</th> <th>t</th> <th>t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3.0</td> <td>23.0</td> <td>26.0</td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>27.0</td> <td>30.0</td> </tr> <tr> <td>c-c</td> <td>10.7</td> <td>39.0</td> <td>65.5</td> </tr> <tr> <td>d-d</td> <td>14.49</td> <td>65.5</td> <td>-</td> </tr> </tbody> </table> |       |             | m          | t                  | t   | a-a  | 3.0 | 23.0 | 26.0 | b-b   | 5.0  | 27.0 | 30.0 | c-c | 10.7 | 39.0 | 65.5   | d-d | 14.49 | 65.5 | -  | <table border="1"> <thead> <tr> <th></th> <th>m</th> <th>t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3.0</td> <td>23.0</td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>27.0</td> </tr> <tr> <td>c-c</td> <td>8.5</td> <td>39.0</td> </tr> </tbody> </table> |   |   | m    | t    | a-a  | 3.0  | 23.0 | b-b  | 5.0 | 27.0 | c-c | 8.5  | 39.0 | <table border="1"> <thead> <tr> <th></th> <th>m</th> <th>t</th> <th>t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3.0</td> <td>23.0</td> <td>26.0</td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>27.0</td> <td>30.0</td> </tr> <tr> <td>c-c</td> <td>9.0</td> <td>39.0</td> <td>61.5</td> </tr> </tbody> </table> |   |    | m  | t | t | a-a  | 3.0  | 23.0 | 26.0 | b-b | 5.0  | 27.0 | 30.0 | c-c | 9.0  | 39.0 | 61.5 | <table border="1"> <thead> <tr> <th></th> <th>m</th> <th>t</th> <th>t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3.0</td> <td>23.0</td> <td>26.0</td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>27.0</td> <td>30.0</td> </tr> <tr> <td>c-c</td> <td>9.0</td> <td>39.0</td> <td>54.5</td> </tr> </tbody> </table> |    |    | m | t | t    | a-a  | 3.0  | 23.0 | 26.0 | b-b  | 5.0 | 27.0 | 30.0 | c-c | 9.0 | 39.0 | 54.5 |
|   | m     | t           | t          |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| a-a   | 3.0   | 23.0        | 26.0       |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| b-b   | 5.0   | 27.0        | 30.0       |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| c-c   | 10.7  | 39.0        | 65.5       |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| d-d   | 14.49 | 65.5        | -          |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
|   | m     | t           |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| a-a   | 3.0   | 23.0        |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| b-b   | 5.0   | 27.0        |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| c-c   | 8.5   | 39.0        |            |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
|   | m     | t           | t          |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| a-a   | 3.0   | 23.0        | 26.0       |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| b-b   | 5.0   | 27.0        | 30.0       |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| c-c   | 9.0   | 39.0        | 61.5       |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
|   | m     | t           | t          |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| a-a   | 3.0   | 23.0        | 26.0       |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| b-b   | 5.0   | 27.0        | 30.0       |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |
| c-c   | 9.0   | 39.0        | 54.5       |                    |     |      |     |      |      |   |      |      |      |     |      |      |  |     |       |      |    |   |   |   |      |      |      |      |      |      |     |      |     |  |      |  |   |    |    |   |   |      |      |      |      |     |      |      |      |     |  |      |      |  |    |    |   |   |      |      |      |      |      |      |     |      |      |     |     |      |      |

indicating load limits and permissible concentrated loads may be marginally higher or lower than those depicted here.

<sup>1)</sup>Fitted with only two side doors positioned diagonally to one another

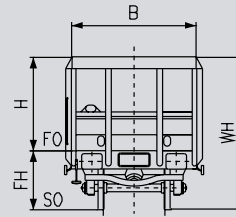
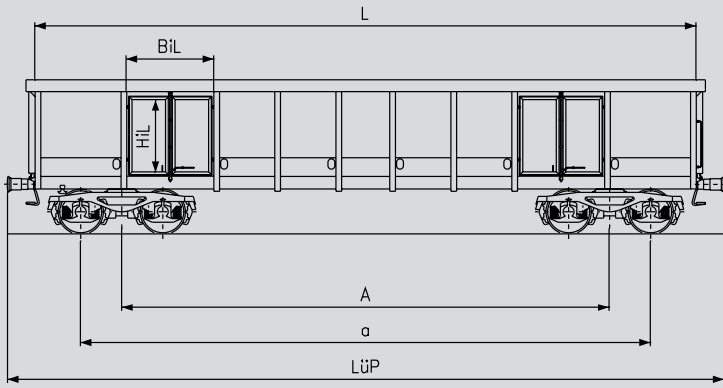
<sup>1)</sup>Fitted with end wall boarding and ratchet straps; for transporting logs (raw timber) only.

# Open wagons



Eanos-x 059

| UIC wagon classification code and DB-specific type number |   |                |      | Eas-x 061   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
|---|---|----------------|------|---|--|---|----|----|---|-----|------|------|------|------|-----|------|------|------|--|-----|-----|------|------|------|--|
| Loading length  | L   | mm             |      | 12800   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Loading width   | B   | mm             |      | 2760  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Loading height  | H   | mm             |      | 2100  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Floor area  |   | m <sup>2</sup> |      | 35.0  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Load capacity   |   | m <sup>3</sup> |      | 72.0  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Side-wall access  | Width   | BiL            | mm   | 1800  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
|   | Height  | HiL            | mm   | 1900  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Floor height  | FH  | mm             |      | 1240  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Height of wagon   | WH  | mm             |      | 3340  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Number of axles   |   |                |      | 4   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Distance between bogie pivots                             | A   | mm             |      | 9000  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Distance between outer axles                              | a   | mm             |      | 10800   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| End platform  |   |                |      | no  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Length over buffers                                       | LüP   | mm             |      | 14040   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Average tare weight of wagon                              |   | kg             |      | 21800   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Load limits   |   | t              |      | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>42.0</td> <td>48.0</td> <td>50.0</td> <td>58.0</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>DB</th> <th>CM</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td colspan="2">62.0</td> </tr> </tbody> </table> |  | A | B1 | B2 | C | S   | 42.0 | 48.0 | 50.0 | 58.0 | 120 | 0.00 |      |      |  | DB  | CM  | D    | 100  | 62.0 |  |
|   | A   | B1             | B2   | C   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| S   | 42.0  | 48.0           | 50.0 | 58.0  |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| 120   | 0.00  |                |      |   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| DB  | CM  | D              |      |   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| 100   | 62.0  |                |      |   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Concentrated loads  |   |                |      | <table border="1"> <thead> <tr> <th></th> <th colspan="2">m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3.0</td> <td>23.0</td> <td>26.0</td> <td></td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>27.0</td> <td>30.0</td> <td></td> </tr> <tr> <td>c-c</td> <td>9.0</td> <td>39.0</td> <td>62.0</td> <td></td> </tr> </tbody> </table>   |  | m |    | t  |   | a-a | 3.0  | 23.0 | 26.0 |      | b-b | 5.0  | 27.0 | 30.0 |  | c-c | 9.0 | 39.0 | 62.0 |      |  |
|   | m   |                | t    |   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| a-a   | 3.0   | 23.0           | 26.0 |   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| b-b   | 5.0   | 27.0           | 30.0 |   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| c-c   | 9.0   | 39.0           | 62.0 |   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |
| Note about information in load limit panels               | As a result of different technical configurations of these wagons, the markings |                |      |   |  |   |    |    |   |     |      |      |      |      |     |      |      |      |  |     |     |      |      |      |  |



| Eas 066 <sup>1)</sup> , Eas-x 066 <sup>1)</sup> ,<br>Eas 067 <sup>2)</sup> , Eas(-x) 073 <sup>2)</sup>  | Eans 069 |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
|---|----------|-------------|------|------|---|---|------|------|------|------|-----|------|--|--|--|----|----|---|-----|------|--|---|---|--|-----|-----|-------------|-----|-----|-------------|-----|-----|-------------|---|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|----|----|-----|------|---|---|--|-----|-----|-------------|-----|-----|-------------|-----|------|-------------|-----|------|----------|
| 12800 <sup>1)</sup> 12710 <sup>2)</sup>   | 14500    |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 2760  | 2760     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 2100  | 2100     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 35.0  | 40.0     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 72.0  | 83.0     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 1800  | 1800     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 1900  | 1900     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 1240  | 1240     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 3340  | 3340     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 4   | 4        |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 9000  | 10700    |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 10800   | 12500    |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| no  | no       |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 14040   | 15740    |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 21800   | 24000    |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
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|   | A        | B1          | B2   | C    |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| S   | 42.0     | 48.0        | 50.0 | 58.0 |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 120   | 0.00     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| DB  | CM       | D           |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 100   | 62.0     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| m   | t        |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| a-a   | 3.0      | 23.0   26.0 |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| b-b   | 5.0      | 27.0   30.0 |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| c-c   | 9.0      | 39.0   62.0 |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
|   | A        | B           | C    | D    |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| S   | 40.0     | 48.0        | 58.0 | 66.0 |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 120   | 0.00     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| DB  | CM       |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| 100   | 60.0     |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| m   | t        |             |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| a-a   | 3.0      | 23.0   26.0 |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| b-b   | 5.0      | 27.0   30.0 |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| c-c   | 10.7     | 39.0   66.0 |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |
| d-d   | 14.5     | 66.0   -    |      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |   |   |  |     |     |             |     |     |             |     |     |             |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |   |  |     |     |             |     |     |             |     |      |             |     |      |          |

indicating load limits and permissible concentrated loads may be marginally higher or lower than those depicted here.

# Open hopper wagons with controlled gravity unlo

Facns 133



Fcs and Fac(n)s wagons are open, self-discharging rail freight wagons. The bulk freight is carried in several hoppers arranged side-by-side and is unloaded from the wagons by gravity. The wagons have several discharge openings each equipped with a rotary slide valve that enable the complete unloading of the wagon contents on either side of the wagon. The discharge rate is controllable, which is often required when discharging the goods onto a conveyor belt.

These wagons are suitable for transporting bulk materials that do not need to be kept dry. The rotary slide valves can be actuated individually from the platform located at one end of the wagon.

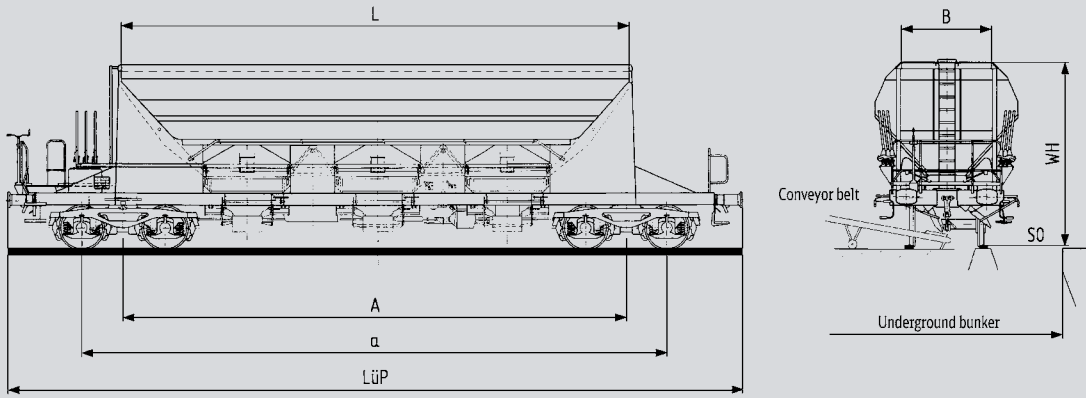
The Facs 124 and Facns 133 wagons offer:

- high capacity
- improved user comfort

## UIC wagon classification code and DB-specific type number

|                                   |     |                |
|-----------------------------------|-----|----------------|
| Inside length of hopper           | L   | mm             |
| Inside width of hopper            | B   | mm             |
| Load capacity                     |     | m <sup>3</sup> |
| Width of fixed discharge outlets  |     | mm             |
| Width of swivel discharge outlets |     | mm             |
| Height of wagon                   | WH  | mm             |
| Number of axles                   |     |                |
| Distance between bogie pivots     | A   | mm             |
| Distance between (outer) axles    | a   | mm             |
| End platform                      |     |                |
| Length over buffers               | LüP | mm             |
| Average tare weight of wagon      |     | kg             |
| Load limits                       |     | t              |

Note about information in load limit panels



| Fcs 088  | Fcs 092<br>Fcs-x 092 | Facs 124  | Facns 133                      |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|--|----------------------|---|--------------------------------|------|------|------|------|--|--|----|----|-----|------|------|------|---|---|---|---|---|------|------|------|-----|------|--|--|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|
| 8000   | 8800                 | 15300   | 11030                          |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 1960   | 1940                 | 1800  | 1952                           |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 40.0   | 40.0                 | 70.0  | 55.0                           |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 600  | 500                  | 600   | 500                            |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 830  | 836                  | 476   | depends on type<br>650/745/830 |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 3993   | 4000                 | 4000  | 4000                           |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 2  | 2                    | 4   | 4                              |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|  |                      | 14000   | 10960                          |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 6000   | 6000                 | 15800   | 12760                          |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| no   | no                   | no  |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 9640   | 9640                 | 19040   | 16000                          |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 12500  | 11800                | 25000   | 22000                          |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| <table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>19.5</td><td>23.5</td><td>27.5</td></tr> </table> | A                    | B   | C                              | S    | 19.5 | 23.5 | 27.5 | <table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>20.0</td><td>24.0</td><td>28.0</td></tr> </table> | A  | B  | C  | S   | 20.0 | 24.0 | 28.0 | <table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>39.0</td><td>47.0</td><td>55.0</td></tr> <tr><td>120</td><td colspan="3">0.00</td></tr> </table> | A | B | C | S | 39.0 | 47.0 | 55.0 | 120 | 0.00 |  |  | <table border="1"> <tr><td>A</td><td>B</td><td>C</td><td>D</td></tr> <tr><td>S</td><td>42.0</td><td>50.0</td><td>60.0</td><td>68.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </table> | A | B | C | D | S | 42.0 | 50.0 | 60.0 | 68.0 | 120 | 0.00 |  |  |  |
| A  | B                    | C   |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 19.5                 | 23.5  | 27.5                           |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| A  | B                    | C   |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 20.0                 | 24.0  | 28.0                           |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| A  | B                    | C   |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 39.0                 | 47.0  | 55.0                           |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00                 |   |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| A  | B                    | C   | D                              |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 42.0                 | 50.0  | 60.0                           | 68.0 |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00                 |   |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|  |                      | <table border="1"> <tr><td>DB</td><td>CM</td><td>D</td></tr> <tr><td>100</td><td>59.0</td><td></td></tr> </table> | DB                             | CM   | D    | 100  | 59.0 |  | <table border="1"> <tr><td>DB</td><td>CM</td></tr> <tr><td>100</td><td>62.0</td></tr> </table> | DB | CM | 100 | 62.0 |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| DB   | CM                   | D   |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 100  | 59.0                 |   |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| DB   | CM                   |   |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 100  | 62.0                 |   |                                |      |      |      |      |  |  |    |    |     |      |      |      |   |   |   |   |   |      |      |      |     |      |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |

As a result of the different technical configurations of these wagons, the load limit marking may be marginally higher or lower than those depicted here.

# Tipping hopper wagons



Fans 128

The single-hopper (Fas 126 and Fakks 127) and double-hopper (Fans 128) double-sided tipping wagons are used to transport bulk goods that are not moisture-sensitive, such as sand, gravel, construction waste and excavated earth.

## Single-hopper tipping wagons:

- have a side-tipping hopper that is driven by pneumatic tipping cylinders,
- the air for the tipping cylinders is supplied by the main air reservoir pipe that is fitted on each wagon.

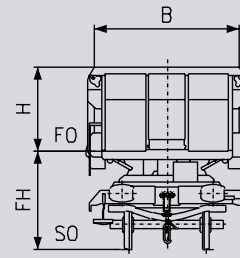
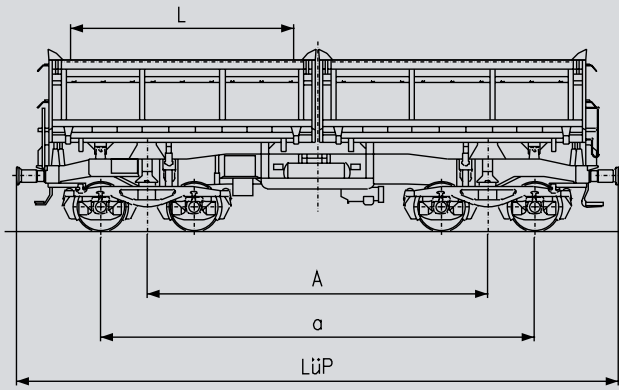
## Double-hopper tipping wagons:

- enable the bulk cargo to be discharged in one of two ways: “near discharge” for dumping the cargo directly into an underground bunker or “far discharge” when the cargo is to be dumped at ground level,
- the electric batteries for the hydraulic tipping equipment are charged by an axle-driven generator during the run,
- the hopper is shaken during the automatic tipping process to ensure the complete discharge of the hopper contents.

In both types of wagon, the tipping process is initiated using the control equipment located on the side of the wagon opposite to the side where the goods are being discharged. The bottom flap acts as an extension chute during discharge

## UIC wagon classification code and DB-specific type number

|   |     |                    |
|---|-----|--------------------|
| Number of hoppers                           |     |                    |
| Inside length of hopper                     | L   | mm                 |
| Inside width of hopper                      | B   | mm                 |
| Load capacity                               |     | m <sup>3</sup>     |
| Height of wagon                             | WH  | mm                 |
|   |     | Transport position |
|   |     | Unloading position |
| Number of axles                             |     |                    |
| Distance between bogie pivots               | A   | mm                 |
| Distance between outer axles                | a   | mm                 |
| End platform                                |     |                    |
| Length over buffers                         | LüP | mm                 |
| Average tare weight of wagon                |     | kg                 |
| Load limits                                 |     | t                  |
| Concentrated loads                          |     |                    |
| Note about information in load limit panels |     |                    |
| Special features                            |     |                    |



| pneumatically actuated  |           | electro-hydraulically actuated |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
|---|-----------|--------------------------------|------|------|------|---|------|----|-----|-----|-----|-----|------|------|------|------|------|------|----|--|--|-----|------|--|--|--|--|--|--|--|--|--|--|--|---|----|----|---|---|------|------|------|------|---|--|--|---|----|----|----|----|----|----|----|----|---|------|------|------|------|------|------|------|----|--|-----|------|--|--|--|--|--|--|--|--|
| Fas 126   | Fakks 127 | Fans 128                       |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 1   | 1         | 2                              |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 10190   | 10102     | 4280                           |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 2750  | 2850      | 2790                           |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 40.0  | 30.0      | 2x 18.0                        |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 3435  | 2979      | 3512                           |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 4360  | 4275      | 4400                           |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 4   | 4         | 4                              |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 7700  | 7960      | 6560                           |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 9500  | 9760      | 8360                           |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| no  | yes       | no                             |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 12550   | 13250     | 11600                          |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 30800   | 31700     | 28500                          |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| <table border="1"> <caption>without end platform</caption> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C2</th> <th>C3</th> <th>C4</th> <th>D2</th> <th>D3</th> <th>D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>31.5</td> <td>41.0</td> <td>49.0</td> <td>51.0</td> <td>49.0</td> <td>59.0</td> <td colspan="3">**</td> </tr> <tr> <td>120</td> <td colspan="9">0.00</td> </tr> </tbody> </table> |           |                                | A    | B1   | B2   | C2  | C3   | C4 | D2  | D3  | D4  | S   | 31.5 | 41.0 | 49.0 | 51.0 | 49.0 | 59.0 | ** |  |  | 120 | 0.00 |  |  |  |  |  |  |  |  | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>31.5</td> <td>33.5</td> <td>39.5</td> <td>47.5</td> </tr> </tbody> </table> |  |  | A | B1 | B2 | C | S | 31.5 | 33.5 | 39.5 | 47.5 | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C2</th> <th>C3</th> <th>C4</th> <th>D2</th> <th>D3</th> <th>D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>29.0</td> <td>43.0</td> <td>45.0</td> <td>53.0</td> <td>45.0</td> <td>54.5</td> <td>61.0</td> <td colspan="2">**</td> </tr> <tr> <td>120</td> <td colspan="9">0.00</td> </tr> </tbody> </table> |  |  | A | B1 | B2 | C2 | C3 | C4 | D2 | D3 | D4 | S | 29.0 | 43.0 | 45.0 | 53.0 | 45.0 | 54.5 | 61.0 | ** |  | 120 | 0.00 |  |  |  |  |  |  |  |  |
|   | A         | B1                             | B2   | C2   | C3   | C4  | D2   | D3 | D4  |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| S   | 31.5      | 41.0                           | 49.0 | 51.0 | 49.0 | 59.0  | **   |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 120   | 0.00      |                                |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
|   | A         | B1                             | B2   | C    |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| S   | 31.5      | 33.5                           | 39.5 | 47.5 |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
|   | A         | B1                             | B2   | C2   | C3   | C4  | D2   | D3 | D4  |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| S   | 29.0      | 43.0                           | 45.0 | 53.0 | 45.0 | 54.5  | 61.0 | ** |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 120   | 0.00      |                                |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
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| DB  | CM        |                                |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 100   | 53.0      |                                |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| DB  | CM2       | CM3                            | CM4  |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 100   | 45.0      | 54.5                           | 55.0 |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
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|   | A         | B1                             | B2   | C2   | C3   | C4  | D2   | D3 | D4  |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| S   | 30.5      | 40.0                           | 48.0 | 50.0 | 48.0 | 58.0  | **   |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 120   | 0.00      |                                |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
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| DB  | CM        |                                |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |
| 100   | 52.0      |                                |      |      |      |   |      |    |     |     |     |     |      |      |      |      |      |      |    |  |  |     |      |  |  |  |  |  |  |  |  |  |  |  |   |    |    |   |   |      |      |      |      |   |  |  |   |    |    |    |    |    |    |    |    |   |      |      |      |      |      |      |      |    |  |     |      |  |  |  |  |  |  |  |  |

As a result of the different technical configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.

Max. cant when tipping: 150 mm

Max. cant when tipping: 110 mm

Max. cant when tipping: 150 mm

# Bogie open hopper wagons with bulk gravity unloa



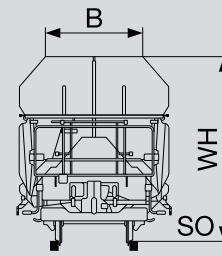
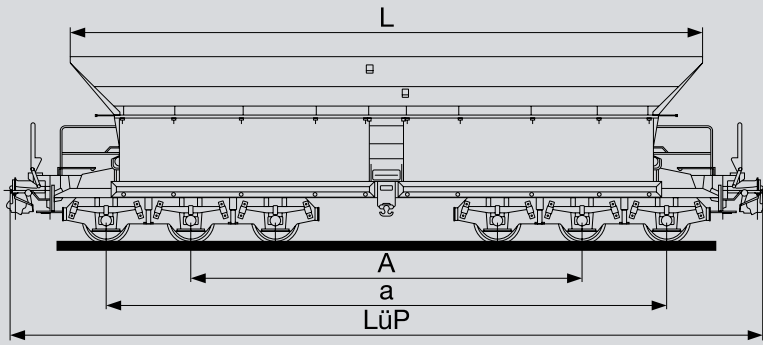
Faals 151

Fal wagons are used to convey large quantities of bulk materials that are not moisture-sensitive. They are typically used in block trains (train-load consignments) running on fixed routes. The loading equipment should ensure that the wagon is uniformly loaded in both the longitudinal and lateral directions and must not be allowed to rest on or knock or bump against the wagon. Unloading points (e.g. underground bunkers) must be laid out in such a manner that the bulk cargo can discharge unobstructed from the wagon and that there is sufficient space to enable the flaps to be opened properly. The cargo discharges under gravity. These wagons have a saddle-bottomed hopper with a pair of discharge flaps on each side of the wagon. All four flaps must be open to completely discharge the cargo. The process of unloading the wagon cannot be controlled and the entire load is dropped under gravity. Fal wagons are available with a number of different flap activation systems:

- **Mechanical**  
Opposite pairs of flaps are opened either from the wagon platform or from the bunker gantry using a long-armed socket key. The flaps swing out freely to the sides and are closed again individually when the wagon has passed through the bunker area.
- **Hydraulic**  
All four flaps are opened and closed simultaneously by activating a control valve either from the wagon platform or from the bunker gantry using a special long-stemmed square socket key.
- **Magnet-hydraulic**  
This type of flap activation system enables the continuous and fully automatic unloading of the wagon in appropriately designed unloading areas (non-contact activation of flaps when wagon passes stationary magnets.) As in the hydraulic system, the magnet-hydraulic system also allows for manual activation of the discharge flaps.
- **Pneumatic**  
All four flaps are opened and closed simultaneously by activating a control lever on the side of the wagon. The air is supplied either from a static track-side unit or from the locomotive.

| UTC wagon classification code and DB-specific type number |               |                |
|---|---------------|----------------|
| Inside length of hopper                                   | L             | mm             |
| Inside width of hopper                                    | B             | mm             |
| Load capacity   |               | m <sup>3</sup> |
| Projection of side flaps                                  |               |                |
|   | max.          | mm             |
|   | normally open | mm             |
| Length of discharge opening                               |               |                |
|   | per flap      | mm             |
|   | per wagon     | mm             |
| Height of wagon   | WH            | mm             |
| Number of axles   |               |                |
| Distance between bogie pivots                             | A             | mm             |
| Distance between outer axles                              | a             | mm             |
| Length over buffers                                       | LüP           | mm             |
| Average tare weight of wagon                              |               | kg             |
| Load limits   |               | t              |
| Note about information in load limit panels               |               |                |
| Flap activation   |               |                |





| with mechanically activated flaps  |           |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
|--|-----------|------|------|-------|-------|---|------|------|------|------|--|--|------|----|---|----|-------|---|------|------|------|------|------|-----|------|--|--|--|--|----|-----|-----|-----|--|--|-----|------|------|------|--|--|
| Fals 175/185   | Falns 182 |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 10688  | 11594     |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 1955   | 1856      |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 75.0   | 85.0      |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 4900   | 4900      |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 4100   | 4100      |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 5000   | 4950      |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 10500  | 10500     |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 3975   | 4300      |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 4  | 4         |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 7500   |           |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 8200   | 9300      |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 11950  | 12540     |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 24700  | 24450     |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| <table border="1"> <thead> <tr> <th></th> <th>A/B1</th> <th>B2</th> <th>C</th> <th>C3/C4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>35.0</td> <td>47.0</td> <td>51.5</td> <td>55.0</td> </tr> </tbody> </table> |           | A/B1 | B2   | C     | C3/C4 | S | 35.0 | 47.0 | 51.5 | 55.0 | <table border="1"> <thead> <tr> <th></th> <th>A/B1</th> <th>B2</th> <th>C</th> <th>D2</th> <th>D3/D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>38.0</td> <td>47.5</td> <td>55.5</td> <td>55.5</td> <td>65.5</td> </tr> <tr> <td>120</td> <td colspan="5">0.00</td> </tr> <tr> <td>DB</td> <td>CM2</td> <td>CM3</td> <td>CM4</td> <td colspan="2"></td> </tr> <tr> <td>100</td> <td>55.5</td> <td>59.5</td> <td>59.5</td> <td colspan="2"></td> </tr> </tbody> </table> |  | A/B1 | B2 | C | D2 | D3/D4 | S | 38.0 | 47.5 | 55.5 | 55.5 | 65.5 | 120 | 0.00 |  |  |  |  | DB | CM2 | CM3 | CM4 |  |  | 100 | 55.5 | 59.5 | 59.5 |  |  |
|  | A/B1      | B2   | C    | C3/C4 |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| S  | 35.0      | 47.0 | 51.5 | 55.0  |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
|  | A/B1      | B2   | C    | D2    | D3/D4 |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| S  | 38.0      | 47.5 | 55.5 | 55.5  | 65.5  |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 120  | 0.00      |      |      |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| DB   | CM2       | CM3  | CM4  |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |
| 100  | 55.5      | 59.5 | 59.5 |       |       |   |      |      |      |      |  |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |     |     |  |  |     |      |      |      |  |  |

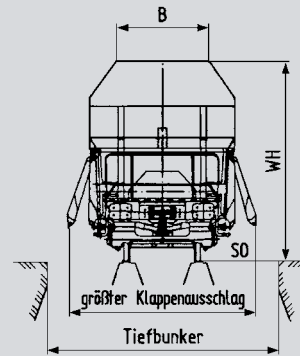
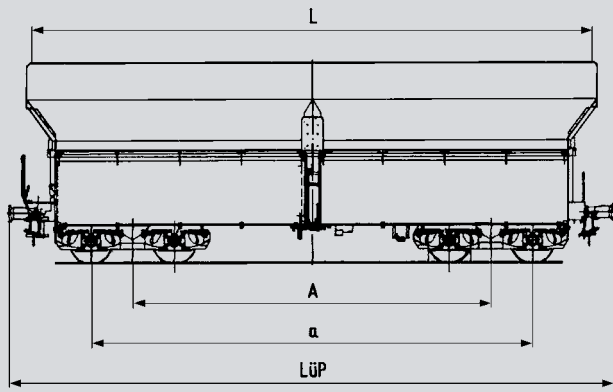
As a result of the different technical configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.  
 Flaps all open and close simultaneously.

# Bogie open hopper wagons with bulk gravity unloa



Falns 121

| UIC wagon classification code and DB-specific type number |   |                | Falns 121  | Falns 180 | Falns 183        |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
|---|---|----------------|--|-----------|------------------|-------|----|---|----|-------|---|------|------|------|------|------|------|-----|------|--|--|--|--|--|----|-----|-----|-----|--|--|--|-----|------|------|------|--|--|--|---|--|---|----|----|---|----|-------|---|------|------|------|------|------|------|-----|------|--|--|--|--|--|----|-----|-----|-----|--|--|--|-----|------|------|------|--|--|--|---|--|---|----|----|---|----|-------|---|------|------|------|------|------|------|-----|------|--|--|--|--|--|----|-----|-----|-----|--|--|--|-----|------|------|------|--|--|--|
| Inside length of hopper                                   | L   | mm             | 12120  | 11594     | 11594            |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Inside width of hopper                                    | B   | mm             | 1812   | 1856      | 1856             |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Load capacity   |   | m <sup>3</sup> | 90.0   | 85.0      | 85.0             |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Projection of side flaps, max.                            |   | mm             | 4,000-4,300 depending on variant   | 4300      | 4300             |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Length of discharge opening                               |   |                |  |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| per flap  |   | mm             | 5325   | 4950      | 4950             |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| per wagon   |   | mm             | 11008  | 10710     | 10508            |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Height of wagon   |   | mm             | 4307   | 4300      | 4300             |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Number of axles   |   |                | 4  | 4         | 4                |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Distance between bogie pivots                             | A   | mm             | 7700   | 7500      | 7500             |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Distance between outer axles                              | a   | mm             | 9500   | 9300      | 9300             |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Length over buffers                                       | LüP   | mm             | 13040  | 12540     | 12540            |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Average tare weight of wagon                              |   | kg             | 24240  | 25500     | 25000            |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Load limits   |   | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>B2</th> <th>C</th> <th>D2</th> <th>D3/D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>39.5</td> <td>40.5</td> <td>47.5</td> <td>57.5</td> <td>58.5</td> <td>65.5</td> </tr> <tr> <td>120</td> <td colspan="6">0.00</td> </tr> <tr> <th>DB</th> <th>CM2</th> <th>CM3</th> <th>CM4</th> <td colspan="3"></td> </tr> <tr> <td>100</td> <td>58.5</td> <td>58.5</td> <td>59.5</td> <td colspan="3"></td> </tr> </tbody> </table> |           | A                | B     | B2 | C | D2 | D3/D4 | S | 39.5 | 40.5 | 47.5 | 57.5 | 58.5 | 65.5 | 120 | 0.00 |  |  |  |  |  | DB | CM2 | CM3 | CM4 |  |  |  | 100 | 58.5 | 58.5 | 59.5 |  |  |  | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> <th>D2</th> <th>D3/D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>37.0</td> <td>37.0</td> <td>46.5</td> <td>54.5</td> <td>54.5</td> <td>64.5</td> </tr> <tr> <td>120</td> <td colspan="6">0.00</td> </tr> <tr> <th>DB</th> <th>CM2</th> <th>CM3</th> <th>CM4</th> <td colspan="3"></td> </tr> <tr> <td>100</td> <td>54.5</td> <td>58.5</td> <td>58.5</td> <td colspan="3"></td> </tr> </tbody> </table> |  | A | B1 | B2 | C | D2 | D3/D4 | S | 37.0 | 37.0 | 46.5 | 54.5 | 54.5 | 64.5 | 120 | 0.00 |  |  |  |  |  | DB | CM2 | CM3 | CM4 |  |  |  | 100 | 54.5 | 58.5 | 58.5 |  |  |  | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> <th>D2</th> <th>D3/D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>37.5</td> <td>37.5</td> <td>47.0</td> <td>55.0</td> <td>55.0</td> <td>65.0</td> </tr> <tr> <td>120</td> <td colspan="6">0.00</td> </tr> <tr> <th>DB</th> <th>CM2</th> <th>CM3</th> <th>CM4</th> <td colspan="3"></td> </tr> <tr> <td>100</td> <td>55.0</td> <td>59.0</td> <td>59.0</td> <td colspan="3"></td> </tr> </tbody> </table> |  | A | B1 | B2 | C | D2 | D3/D4 | S | 37.5 | 37.5 | 47.0 | 55.0 | 55.0 | 65.0 | 120 | 0.00 |  |  |  |  |  | DB | CM2 | CM3 | CM4 |  |  |  | 100 | 55.0 | 59.0 | 59.0 |  |  |  |
|   | A   | B              | B2   | C         | D2               | D3/D4 |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| S   | 39.5  | 40.5           | 47.5   | 57.5      | 58.5             | 65.5  |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| 120   | 0.00  |                |  |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| DB  | CM2   | CM3            | CM4  |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| 100   | 58.5  | 58.5           | 59.5   |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
|   | A   | B1             | B2   | C         | D2               | D3/D4 |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| S   | 37.0  | 37.0           | 46.5   | 54.5      | 54.5             | 64.5  |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| 120   | 0.00  |                |  |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| DB  | CM2   | CM3            | CM4  |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| 100   | 54.5  | 58.5           | 58.5   |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
|   | A   | B1             | B2   | C         | D2               | D3/D4 |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| S   | 37.5  | 37.5           | 47.0   | 55.0      | 55.0             | 65.0  |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| 120   | 0.00  |                |  |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| DB  | CM2   | CM3            | CM4  |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| 100   | 55.0  | 59.0           | 59.0   |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Maximum carrying capacity                                 |   | t              | <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <sup>1)</sup><br/>69.5         </div>   |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Note about information in load limit panels               | As a result of the different technical      |                |  |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Flap activation   | Flaps all open and                          |                |  |           |                  |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |
| Special features  | <sup>1)</sup> Can be used on specific lines |                | Magnetic control   |           | Magnetic control |       |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |   |  |   |    |    |   |    |       |   |      |      |      |      |      |      |     |      |  |  |  |  |  |    |     |     |     |  |  |  |     |      |      |      |  |  |  |



with hydraulically activated flaps

| Falns 184 | Falns 186 | Faals 151           | Falrrs 152 <sup>1)</sup> , Falrrs 153 <sup>2)</sup> |
|-----------|-----------|---------------------|---|
| 11920     | 10688     | 12760               | 2x 12760  |
| 1868      | 1955      | 2238                | 2238  |
| 77.0      | 75.0      | 70.0                | 2x 70.0   |
| 4300      | 4250      | 4300                | 4300  |
| 5075      | 4932      | 5050                | 5050  |
| 10508     | 10392     | 10710               | 10710   |
| 4015      | 3975      | 4007                | 4007  |
| 4         | 4         | 6                   | 12  |
| 7500      | 6400      | 8000                | 2x 8000   |
| 9300      | 8200      | 11400               | 26450   |
| 12540     | 11950     | 15050 <sup>2)</sup> | 30100 <sup>4)</sup>                                 |
| 24000     | 25300     | 35000               | 68200   |

| Falns 184 |       |       |       |      |       |      |       | Falns 186 |      |      |      |      | Faals 151  |      |      |      |      |      |    | Falrrs 152 <sup>1)</sup> , Falrrs 153 <sup>2)</sup> |       |       |       |       |                     |       |      |      |      |  |  |  |  |  |  |  |  |  |  |    |     |     |       |     |       |       |       |
|-----------|-------|-------|-------|------|-------|------|-------|-----------|------|------|------|------|--|------|------|------|------|------|----|---|-------|-------|-------|-------|---------------------|-------|------|------|------|--|--|--|--|--|--|--|--|--|--|----|-----|-----|-------|-----|-------|-------|-------|
| S         | A     | B1    | B2    | C2   | C3/C4 | D2   | D3/D4 | S         | A    | B1   | B2   | C2   | C3/C4  | S    | A    | B1   | B2   | C    | D2 | D3/D4   | S     | A/B1  | B2    | C     | D2                  | D3/D4 |      |      |      |  |  |  |  |  |  |  |  |  |  |    |     |     |       |     |       |       |       |
| 38.5      | 38.5  | 48.0  | 56.0  | 58.0 | 56.0  | 66.0 | ***   | 34.0      | 34.0 | 46.5 | 51.0 | 54.5 | **   | 40.0 | 40.0 | 52.0 | 61.0 | 70.0 | ** | 81.0  | 105.0 | 123.0 | 123.0 | 141.0 | **                  |       |      |      |      |  |  |  |  |  |  |  |  |  |  |    |     |     |       |     |       |       |       |
| 120       | 0.00  |       |       |      |       |      |       |           |      |      |      |      |  |      | 120  | 0.00 |      |      |    |   |       |       |       |       |                     | 120   | 0.00 |      |      |  |  |  |  |  |  |  |  |  |  |    |     |     |       |     |       |       |       |
|           |       |       |       |      |       |      |       |           |      |      |      |      | <table border="1"> <tr> <th>DB</th> <th>CM2</th> <th>CM3</th> <th>CM4</th> <th>D</th> </tr> <tr> <td>100</td> <td>61.0</td> <td>73.0</td> <td>85.0</td> <td>85.0</td> </tr> </table> |      |      |      |      |      |    | DB  | CM2   | CM3   | CM4   | D     | 100                 | 61.0  | 73.0 | 85.0 | 85.0 |  |  |  |  |  | <table border="1"> <tr> <th>DB</th> <th>CM2</th> <th>CM3</th> <th>CM4/D</th> </tr> <tr> <td>100</td> <td>124.0</td> <td>148.0</td> <td>172.0</td> </tr> </table> |  |  |  |  | DB | CM2 | CM3 | CM4/D | 100 | 124.0 | 148.0 | 172.0 |
| DB        | CM2   | CM3   | CM4   | D    |       |      |       |           |      |      |      |      |  |      |      |      |      |      |    |   |       |       |       |       |                     |       |      |      |      |  |  |  |  |  |  |  |  |  |  |    |     |     |       |     |       |       |       |
| 100       | 61.0  | 73.0  | 85.0  | 85.0 |       |      |       |           |      |      |      |      |  |      |      |      |      |      |    |   |       |       |       |       |                     |       |      |      |      |  |  |  |  |  |  |  |  |  |  |    |     |     |       |     |       |       |       |
| DB        | CM2   | CM3   | CM4/D |      |       |      |       |           |      |      |      |      |  |      |      |      |      |      |    |   |       |       |       |       |                     |       |      |      |      |  |  |  |  |  |  |  |  |  |  |    |     |     |       |     |       |       |       |
| 100       | 124.0 | 148.0 | 172.0 |      |       |      |       |           |      |      |      |      |  |      |      |      |      |      |    |   |       |       |       |       |                     |       |      |      |      |  |  |  |  |  |  |  |  |  |  |    |     |     |       |     |       |       |       |
|           |       |       |       |      |       |      |       |           |      |      |      |      | <sup>1)</sup> 115  |      |      |      |      |      |    |   |       |       |       |       | <sup>3)</sup> 231.5 |       |      |      |      |  |  |  |  |  |  |  |  |  |  |    |     |     |       |     |       |       |       |

configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.

close simultaneously.

Flaps all open and close in pairs.

<sup>1)</sup> Flaps all open and close in pairs.

<sup>2)</sup> Flaps all open and close simultaneously.

Ore hopper wagon.  
Automatic UIC coupler,  
no side buffers.

<sup>1)</sup> Can be used on specific lines.

<sup>2)</sup> Length over couplers.

Ore hopper wagon.  
Automatic coupler,  
no side buffers  
Falrrs 152 and 153 are  
double wagons comprising two  
Faals 151 wagons linked by a  
coupling bar.

<sup>3)</sup> Only for use on specified lines.

<sup>4)</sup> Length over couplers.

# Bogie open hopper wagons with bulk gravity unloa



Fals 164

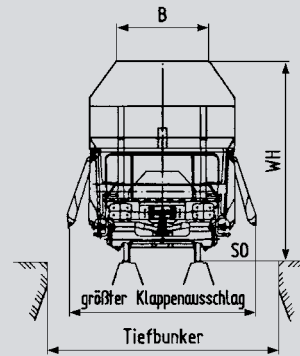
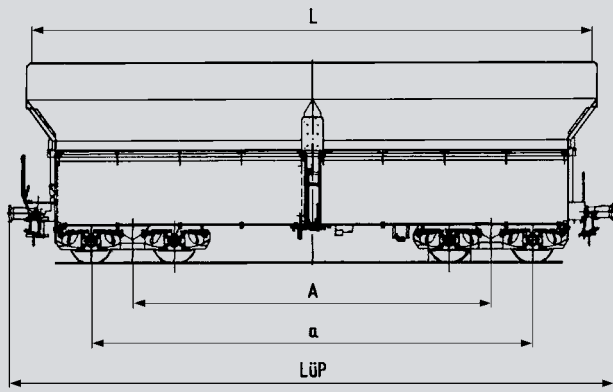
## UIC wagon classification code and DB-specific type number

|                                |           |                |
|--------------------------------|-----------|----------------|
| Inside length of hopper        | L         | mm             |
| Inside width of hopper         | B         | mm             |
| Load capacity                  |           | m <sup>3</sup> |
| Projection of side flaps, max. |           | mm             |
| Length of discharge opening    | per flap  | mm             |
|                                | per wagon | mm             |
| Height of wagon                |           | mm             |
| Number of axles                |           |                |
| Distance between bogie pivots  | A         | mm             |
| Distance between outer axles   | a         | mm             |
| Length over buffers            | LüP       | mm             |
| Average tare weight of wagon   |           | kg             |
| Load limits                    |           | t              |

Note about information in load limit panels

Flap activation

Special features



with pneumatically activated flaps

Fals(-x) 164

Falns(-x) 165

11954

12000

1940

1860

75.0

83.0

4058

4300

5318

5500

11580

11850

3996

4290

4

4

7200

7200

9000

9000

13500

13500<sup>1)</sup>, 13250

26000

28600

|   | A    | B    | B2   | C    |
|---|------|------|------|------|
| S | 37.5 | 41.0 | 45.5 | 53.5 |

\*\*

|     | A    | B1   | B2   | C    | D2   | D3/D4 |
|-----|------|------|------|------|------|-------|
| S   | 35.0 | 37.0 | 43.0 | 55.0 | 57.0 | 61.0  |
| 120 | 0.00 |      |      |      |      |       |

\*\*

| DB  | CM   |
|-----|------|
| 100 | 55.0 |

As a result of the different technical configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.

Flaps all open and close simultaneously.

Reinforced flaps  
<sup>1)</sup> with end platform

# High-capacity sliding-wall covered wagons

Habbi(II)(n)s 345/346/350/351



These high-capacity wagons are equipped with sliding walls that can be moved by a single person. When open, the entire wagon loading area can be accessed from both sides. This allows the wagon to be loaded and unloaded using forklift trucks either from a ramp or from ground level. Some of these wagons are fitted with lockable partitions that enable different kinds of highly sensitive goods to be properly protected when being transported. The partitions allow the interior of the wagon to be divided up into individual chambers. The special car-carrier wagons are equipped with a lockable partition to close off unused sections of the loading area. The lockable partitions engage with rows of holes set into the wagon floor and on the top chord. Loading plans for Euro pallets and industrial pallets are shown on pages 48–51. The Habbiins 344 wagon (see page 56) is a 4-axle sliding-wall wagon primarily used for transporting paper rolls, cellulose and palletised goods. A multifunctional strip-hole system enables loads to be secured using specially designed chocks (see page 56) that are included with the wagon.

| Wagon type  | Central pillar zone |                       |                      | Wall zone |                       |                      | Cross-sectional view |           |      |
|---|---------------------|-----------------------|----------------------|-----------|-----------------------|----------------------|----------------------|-----------|------|
|   | Pos                 | Loading height H (mm) | Loading width B (mm) | Pos       | Loading height H (mm) | Loading width B (mm) | Central pillar view  | Wall zone |      |
| Hbillns 302. 303  |                     | 2000                  | 2670                 |           | 2000                  | 2670                 |                      |           |      |
|   | 1 <sup>1)</sup>     | 2110                  | 2670                 | 1         | 2200                  | 2670                 |                      |           |      |
|   | 2 <sup>1)</sup>     | 2110                  | 2530                 | 2         | 2200                  | 2000                 |                      |           |      |
|   | 3 <sup>1)</sup>     | 2200                  | 2530                 | 3         | 2375                  | 2000                 |                      |           |      |
|   | 4 <sup>1)</sup>     | 2200                  | 2000                 |           |                       |                      |                      |           |      |
|   | 5 <sup>1)</sup>     | 2375                  | 2000                 |           |                       |                      |                      |           |      |
| <sup>1)</sup> These loading gauges apply only if the partitions are not being used and are fastened in equal numbers to the two end walls of the wagon. |                     |                       |                      |           |                       |                      |                      |           |      |
| Hbbillns 305  | 1                   | 2055                  | 2900                 | 1         | 2120                  | 2900                 |                      |           |      |
|   |                     | 2105                  | 2851                 |           | 2170                  | 2850                 |                      |           |      |
|   |                     | 2155                  | 2802                 |           | 2220                  | 2799                 |                      |           |      |
|   |                     | 2205                  | 2752                 |           | 2270                  | 2749                 |                      |           |      |
|   |                     | 2255                  | 2703                 |           | 2320                  | 2698                 |                      |           |      |
|   |                     | 2305                  | 2654                 |           | 2370                  | 2648                 |                      |           |      |
|   |                     | 2355                  | 2605                 |           | 2400                  | 2617                 |                      |           |      |
| Hbbins 306  | 2                   | 2424                  | 2537                 | 2         | 2420                  | 2597                 |                      |           |      |
|   |                     | 2474                  | 2248                 |           | 2442                  | 2575                 |                      |           |      |
|   |                     | 2524                  | 1959                 |           | 2492                  | 2407                 |                      |           |      |
|   |                     | 2574                  | 1670                 |           | 2542                  | 2240                 |                      |           |      |
|   |                     | 2600                  | 1520                 |           | 2592                  | 2072                 |                      |           |      |
| Habbins 345<br>Habbills 346   | 1                   | 2037                  | 2740                 | 3         | 2600                  | 2045                 |                      |           |      |
|   |                     | 2087                  | 2689                 |           | 2112                  | 2740                 |                      |           |      |
|   |                     | 2137                  | 2638                 |           | 2162                  | 2690                 |                      |           |      |
|   |                     | 2187                  | 2587                 |           | 2212                  | 2640                 |                      |           |      |
|   |                     | 2237                  | 2536                 |           | 2262                  | 2590                 |                      |           |      |
|   |                     | 2287                  | 2485                 |           | 2312                  | 2540                 |                      |           |      |
|   |                     | 2337                  | 2434                 |           | 2362                  | 2490                 |                      |           |      |
|   |                     | 2387                  | 2383                 |           | 2412                  | 2440                 |                      |           |      |
|   |                     | 2                     | 2420                 |           | 2350                  | 2                    |                      | 2435      | 2420 |
|   |                     |                       | 2470                 |           | 2103                  |                      |                      | 2485      | 2232 |
|   |                     |                       | 2520                 |           | 1856                  |                      |                      | 2535      | 2044 |
|   |                     |                       | 2570                 |           | 1609                  |                      |                      | 2585      | 1856 |
|   |                     |                       | 2620                 |           | 1362                  |                      |                      | 2635      | 1668 |
|   |                     |                       | 2670                 |           | 1115                  |                      |                      | 2685      | 1480 |
|   |                     |                       | 2720                 |           | 868                   |                      |                      | 2735      | 1292 |
| 2770  | 621                 | 2785                  | 1104                 |           |                       |                      |                      |           |      |
| 3   | 2800                | 475                   | 3                    | 2800      | 1045                  |                      |                      |           |      |

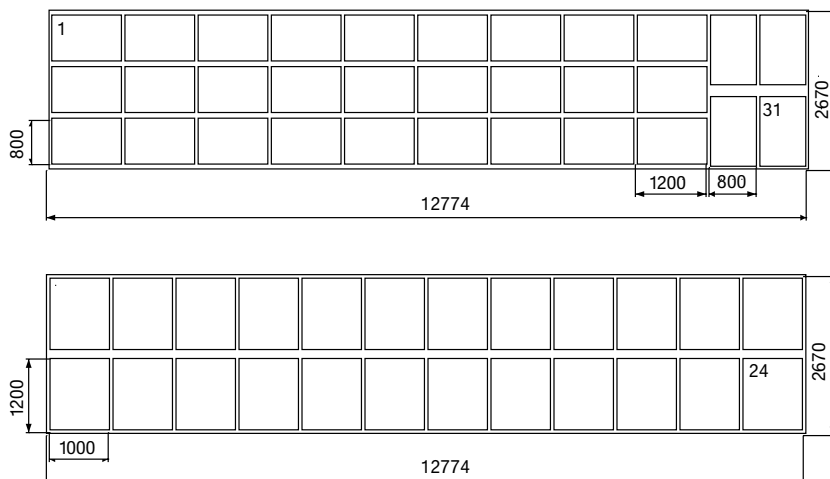


Hbbills 311

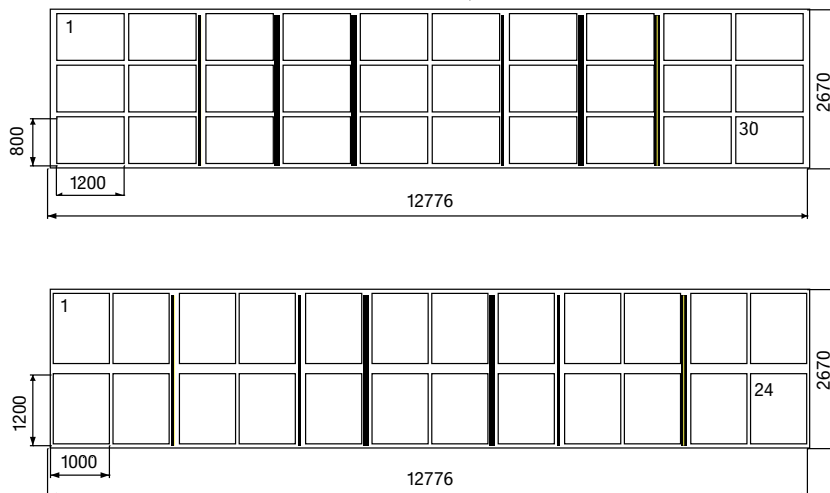
| Wagon type                                     | Central pillar zone |                       |                      | Wagon type | Wall zone |                       |                      | Cross-sectional view |           |
|--|---------------------|-----------------------|----------------------|------------|-----------|-----------------------|----------------------|----------------------|-----------|
|  | Pos                 | Loading height H (mm) | Loading width B (mm) |            | Pos       | Loading height H (mm) | Loading width B (mm) | Central pillar view  | Wall zone |
| Hbbills 311                                    | 1                   | 2300                  | 2880                 | 1          | 2350      | 2900                  |                      |                      |           |
|  |                     | 2590                  | 2546                 |            | 2602      | 2588                  |                      |                      |           |
|  |                     | 2650                  | 2448                 |            | 2650      | 2509                  |                      |                      |           |
|  |                     | 2700                  | 2366                 |            | 2700      | 2427                  |                      |                      |           |
|  |                     | 2750                  | 2286                 |            | 2750      | 2347                  |                      |                      |           |
|  |                     | 2800                  | 2204                 |            | 2800      | 2265                  |                      |                      |           |
|  |                     | 2850                  | 2124                 |            | 2850      | 2185                  |                      |                      |           |
|  |                     | 2900                  | 2042                 |            | 2900      | 2103                  |                      |                      |           |
|  |                     | 2950                  | 1960                 |            | 2950      | 2023                  |                      |                      |           |
|  |                     | 3000                  | 1880                 |            | 3000      | 1941                  |                      |                      |           |
|  | 3050                | 1798                  | 3050                 | 1861       |           |                       |                      |                      |           |
|  | 3                   | 3100                  | 1716                 | 3100       | 1781      |                       |                      |                      |           |
|  |                     | 3170                  | 1604                 | 3150       | 1699      |                       |                      |                      |           |
|  |                     |                       |                      | 3215       | 1595      |                       |                      |                      |           |
|  |                     |                       |                      |            |           |                       |                      |                      |           |
| Hbbills 310                                    | 1                   | 2023                  | 2880                 | 1          | 2080      | 2900                  |                      |                      |           |
|  |                     | 2100                  | 2805                 |            | 2130      | 2830                  |                      |                      |           |
|  |                     | 2150                  | 2755                 |            | 2180      | 2780                  |                      |                      |           |
|  |                     | 2200                  | 2705                 |            | 2230      | 2730                  |                      |                      |           |
|  |                     | 2250                  | 2657                 |            | 2280      | 2682                  |                      |                      |           |
|  |                     | 2300                  | 2609                 |            | 2330      | 2634                  |                      |                      |           |
|  |                     | 2350                  | 2561                 |            | 2380      | 2584                  |                      |                      |           |
|  |                     | 2400                  | 2513                 |            | 2430      | 2536                  |                      |                      |           |
|  | 2                   | 2453                  | 2459                 | 2467       | 2500      |                       |                      |                      |           |
|  |                     | 2500                  | 2363                 | 2520       | 2387      |                       |                      |                      |           |
|  |                     | 2550                  | 2265                 | 2570       | 2293      |                       |                      |                      |           |
|  |                     | 2600                  | 2169                 | 2620       | 2197      |                       |                      |                      |           |
|  | 3                   | 2679                  | 2013                 | 2670       | 2101      |                       |                      |                      |           |
|  |                     | 2750                  | 1629                 | 2720       | 2005      |                       |                      |                      |           |
|  |                     | 2805                  | 1323                 | 2770       | 1725      |                       |                      |                      |           |
|  |                     |                       |                      | 2850       | 1305      |                       |                      |                      |           |
| Habbiins 344<br>Habbiins 352<br>Habbiillns 352 | 1                   | 1970                  | 2810                 | 1          | 2038      | 2820                  |                      |                      |           |
|  |                     | 2050                  | 2730                 |            | 2100      | 2738                  |                      |                      |           |
|  |                     | 2100                  | 2680                 |            | 2150      | 2688                  |                      |                      |           |
|  |                     | 2150                  | 2630                 |            | 2200      | 2638                  |                      |                      |           |
|  |                     | 2200                  | 2580                 |            | 2250      | 2588                  |                      |                      |           |
|  |                     | 2250                  | 2530                 |            | 2300      | 2538                  |                      |                      |           |
|  |                     | 2267                  | 2514                 |            | 2350      | 2488                  |                      |                      |           |
|  |                     | 2300                  | 2448                 |            | 2400      | 2438                  |                      |                      |           |
|  | 2                   | 2350                  | 2348                 | 2450       | 2388      |                       |                      |                      |           |
|  |                     | 2400                  | 2248                 | 2453       | 2386      |                       |                      |                      |           |
|  |                     | 2450                  | 2148                 | 2500       | 2290      |                       |                      |                      |           |
|  |                     | 2500                  | 2048                 | 2550       | 2190      |                       |                      |                      |           |
|  |                     | 2550                  | 1948                 | 2600       | 2090      |                       |                      |                      |           |
|  |                     | 2600                  | 1848                 | 2650       | 1988      |                       |                      |                      |           |
|  |                     | 2650                  | 1748                 | 2662       | 1964      |                       |                      |                      |           |
|  |                     | 2670                  | 1708                 | 2700       | 1756      |                       |                      |                      |           |
| 3  | 2700                | 1544                  | 2750                 | 1482       |           |                       |                      |                      |           |
|  | 2750                | 1270                  | 2800                 | 1206       |           |                       |                      |                      |           |
|  | 2755                | 1242                  |                      |            |           |                       |                      |                      |           |
|  |                     |                       |                      |            |           |                       |                      |                      |           |
| Habins 347                                     | 1                   | 2070                  | 2780                 | 1          | 2070      | 2780                  |                      |                      |           |
|  | 2                   | 2437                  | 2435                 | 2          | 2437      | 2435                  |                      |                      |           |
|  | 3                   | 2632                  | 2065                 | 3          | 2632      | 2065                  |                      |                      |           |
|  | 4                   | 2800                  | 1145                 | 4          | 2800      | 1145                  |                      |                      |           |

# High-capacity sliding-wall covered wagons – Pallet

Hbis-ww 299



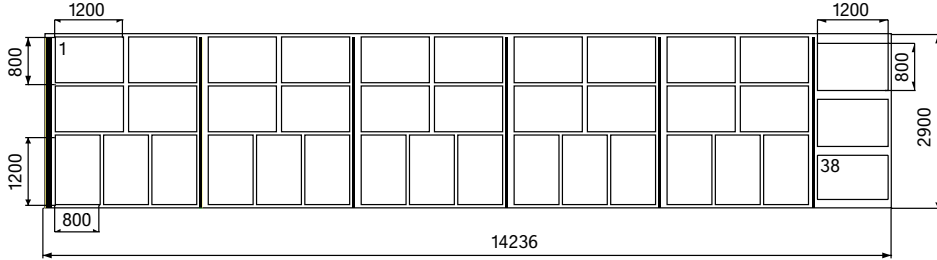
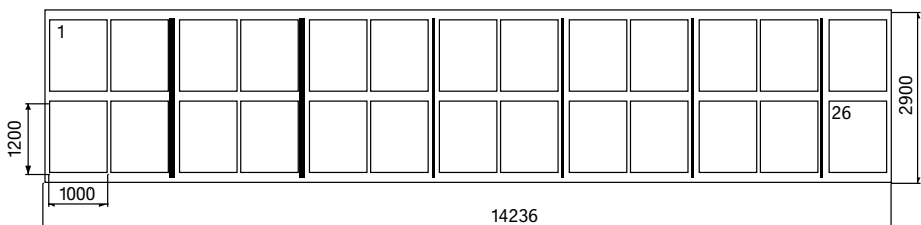
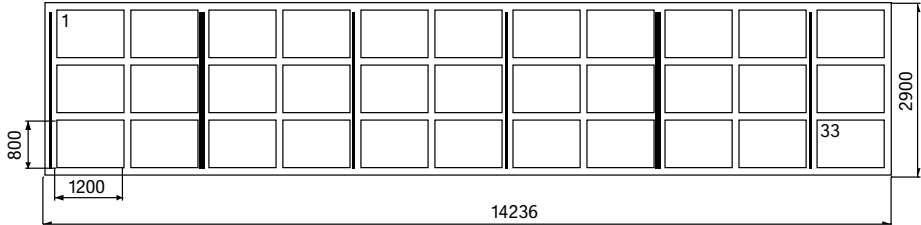
Hbillns 302, 303



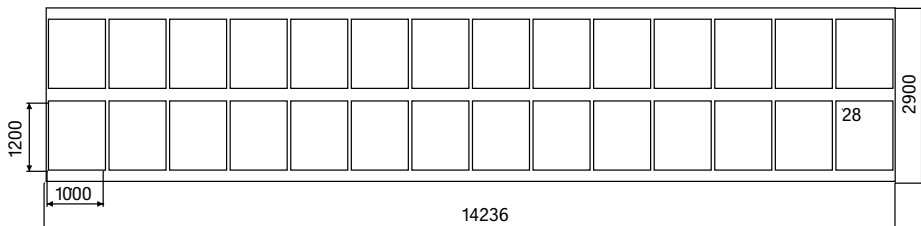
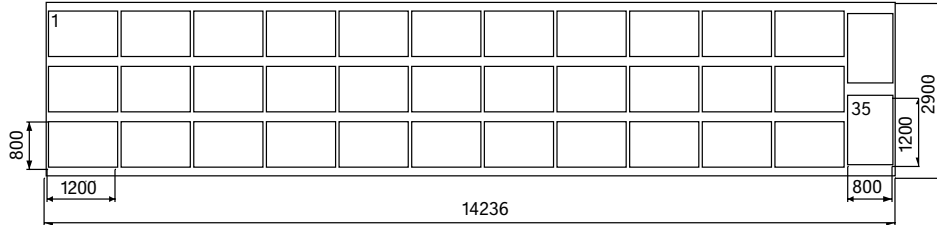
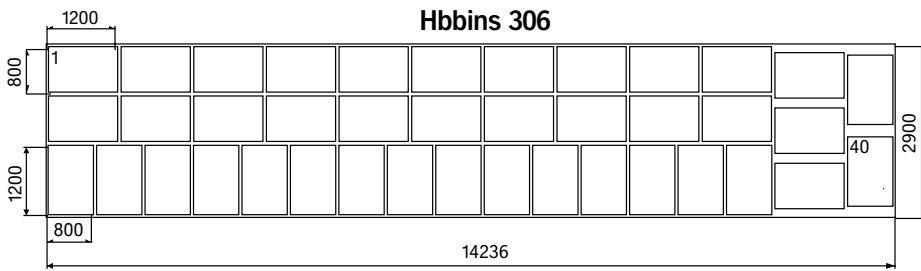




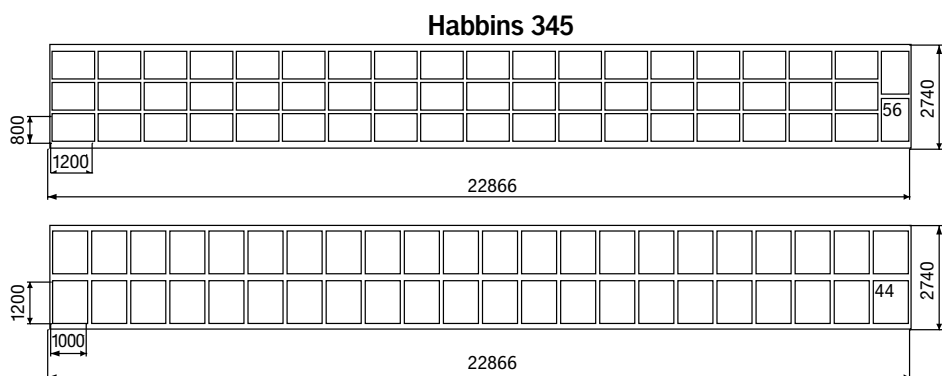
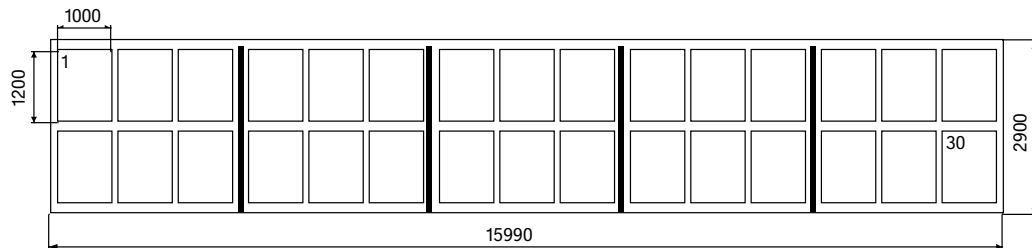
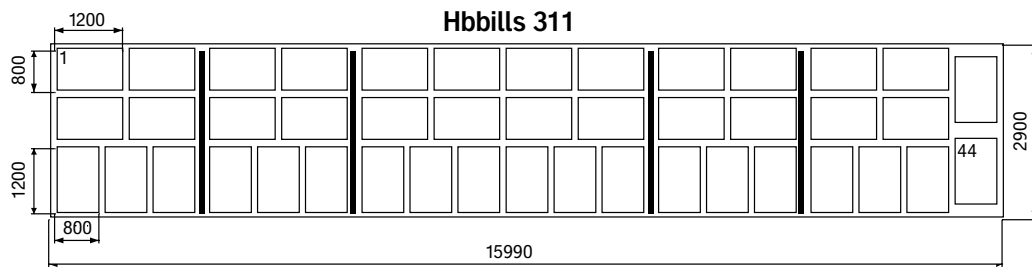
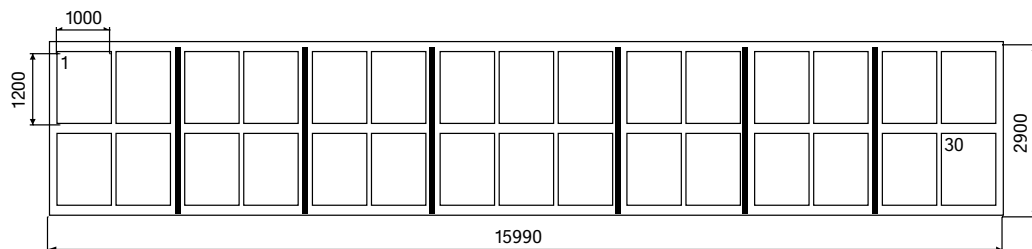
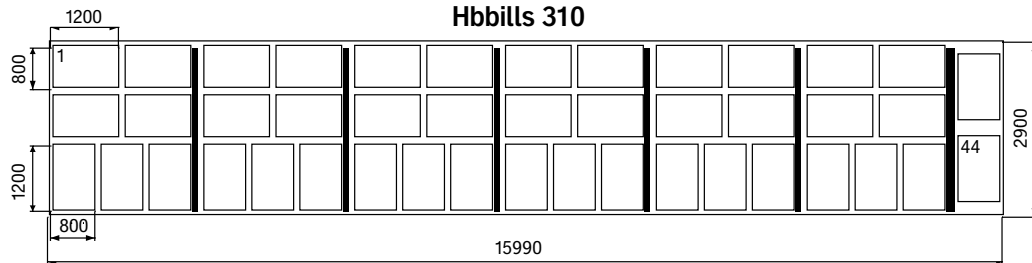
### Hbbilns 305



### Hbbins 306

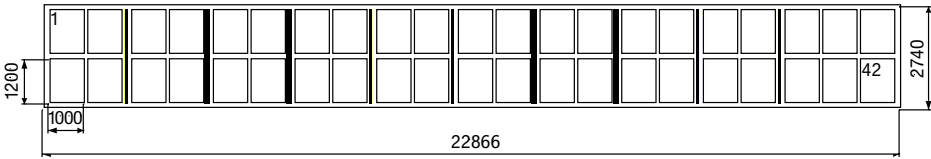
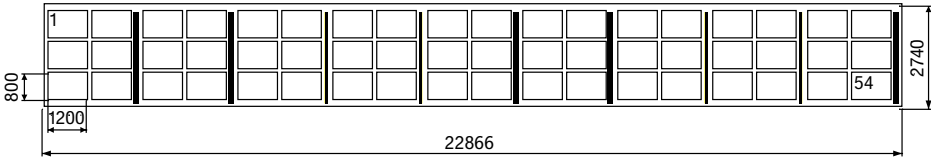


# High-capacity sliding-wall covered wagons – Pallet

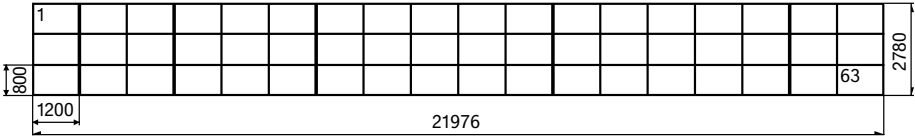




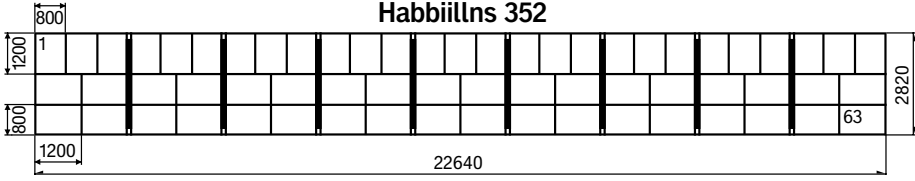
### Habbills 346



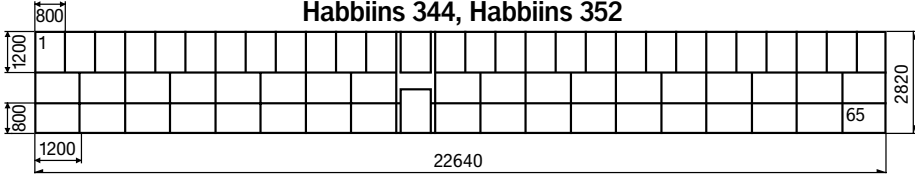
### Habins 347



### Habbiilns 352



### Habbiins 344, Habbiins 352

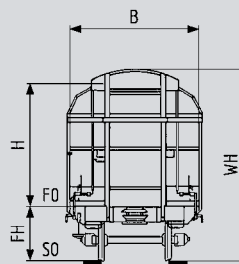
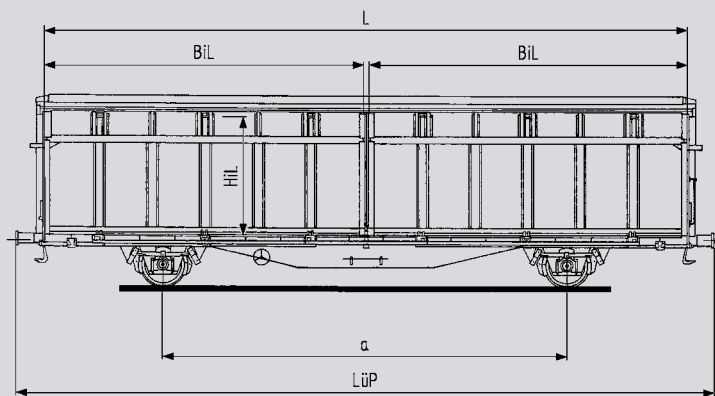


# High-capacity sliding-wall covered wagons



Hbis-tt 293

| UIC wagon classification code and DB-specific type number |        |                |  | wagons without partitions |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|---|--------|----------------|--|---------------------------|------------|----------------------------|---|---|------|------|------|--|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|--|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|
|   |        |                |  | Hbis-ww 299               | Hbbins 306 | Hbins-tt 292 <sup>1)</sup> |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Loading length  | L      | mm             | 12774  | 14236                     | 12774      |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Loading width   | B      | mm             | 2670   | 2900                      | 2600       |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Loading height up to top of partition                     | H      | mm             | 2250   | 2400                      | 3000       |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Floor area  |        | m <sup>2</sup> | 34.0   | 41.3                      | 34.1       |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Max. loading capacity                                     |        | m <sup>3</sup> | 76.7   | 105.0                     | 105.0      |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Sliding-wall access                                       |        |                |  |                           |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|   | Width  | BiL            | mm   | 6227                      | 7018       | 6318                       |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|   | Height | HiL            | mm   | 2070                      | 2600       | 3050                       |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Floor height  | FH     | mm             | 1200   | 1200                      | 1200       |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Height of wagon   | WH     | mm             | 3912   | 4255                      | 4656       |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Number of axles   |        |                | 2  | 2                         | 2          |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Distance between axles or between bogie pivots            | a or A | mm             | 8000   | 9000                      | 9000       |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Parking brake   |        |                | not fitted   | fitted in some cases      | not fitted |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Length over buffers                                       | LüP    | mm             | 14020  | 15500                     | 14220      |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Average tare weight of wagon                              |        | kg             | 13700  | 14900                     | 15800      |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Load limits   |        | t              | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>18.0</td><td>22.0</td><td>26.0</td></tr> </table> ** |                           | A          | B                          | C | S | 18.0 | 22.0 | 26.0 | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td></tr> <tr><td>S</td><td>17.0</td><td>21.0</td><td>26.0</td><td>30.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </table> ** |  | A | B | C | D | S | 17.0 | 21.0 | 26.0 | 30.0 | 120 | 0.00 |  |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td></tr> <tr><td>S</td><td>16.0</td><td>20.0</td><td>25.0</td><td>29.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </table> ** |  | A | B | C | D | S | 16.0 | 20.0 | 25.0 | 29.0 | 120 | 0.00 |  |  |  |
|   | A      | B              | C  |                           |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S   | 18.0   | 22.0           | 26.0   |                           |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|   | A      | B              | C  | D                         |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S   | 17.0   | 21.0           | 26.0   | 30.0                      |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120   | 0.00   |                |  |                           |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|   | A      | B              | C  | D                         |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S   | 16.0   | 20.0           | 25.0   | 29.0                      |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120   | 0.00   |                |  |                           |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Note about information in load limit panels               |        |                | As a result of the different technical configurations  |                           |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Special features  |        |                | Wagon exceeds the reduced reference profile G2   |                           |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|   |        |                | <sup>1)</sup> effective loading length   |                           |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|   |        |                | 12630 mm   |                           |            |                            |   |   |      |      |      |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |



| Hbis-tt 293  | Hiirrs-tt 324 <sup>1)</sup> | 1 lockable partition<br>Hirrs-tt 325 <sup>1)</sup> | Hbbins-tt 309       | Himms-tt 326 <sup>1)</sup> |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|--|-----------------------------|--|---------------------|----------------------------|---|------|------|------|-----|------|--|--|---|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|--|--|---|---|---|---|------|------|------|-----|------|--|--|---|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|---|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|
| 12776 <sup>1)</sup>  | 2x 12774                    | 2x 12776 <sup>1)</sup>                             | 14636 <sup>1)</sup> | 2x 14636 <sup>1)</sup>     |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 2570 - 2590  | 2600                        | 2590   | 2580                | 2580                       |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 3050   | 3000                        | 3050   | 3050                | 3050                       |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 33.0   | 2x 34.1                     | 2x 33.0  | 37.7                | 2x 37.7                    |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 100.5  | 2x 105.0                    | 2x 100.5   | 115.0               | 2x 115.0                   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 6313   | 6318                        | 6313   | 7218                | 7218                       |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 3035   | 3050                        | 3035   | 3035                | 3035                       |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 1200   | 1200                        | 1200   | 1200                | 1200                       |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 4590   | 4656                        | 4590   | 4652                | 4652                       |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 2  | 2                           | 4  | 2                   | 4                          |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 9000   | 9000                        | 2x 9000  | 10000               | 2x 10000                   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| not fitted   | not fitted                  | not fitted   | not fitted          | not fitted                 |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 14220  | 28440                       | 28440  | 15900               | 31800                      |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 15400  | 31600                       | 32000  | 16300               | 32600                      |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>16.5</td><td>20.5</td><td>25.5</td></tr> <tr><td>120</td><td colspan="3">0.00</td></tr> </table> |                             | A  | B                   | C                          | S | 16.5 | 20.5 | 25.5 | 120 | 0.00 |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td></tr> <tr><td>S</td><td>32.0</td><td>40.0</td><td>50.0</td><td>58.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </table> |  | A | B | C | D | S | 32.0 | 40.0 | 50.0 | 58.0 | 120 | 0.00 |  |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>32.0</td><td>40.0</td><td>50.0</td></tr> <tr><td>120</td><td colspan="3">0.00</td></tr> </table> |  | A | B | C | S | 32.0 | 40.0 | 50.0 | 120 | 0.00 |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td></tr> <tr><td>S</td><td>15.5</td><td>19.5</td><td>24.5</td><td>28.5</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </table> |  | A | B | C | D | S | 15.5 | 19.5 | 24.5 | 28.5 | 120 | 0.00 |  |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td></tr> <tr><td>S</td><td>31.0</td><td>39.0</td><td>49.0</td><td>57.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </table> |  | A | B | C | D | S | 31.0 | 39.0 | 49.0 | 57.0 | 120 | 0.00 |  |  |  |
|  | A                           | B  | C                   |                            |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 16.5                        | 20.5   | 25.5                |                            |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00                        |  |                     |                            |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|  | A                           | B  | C                   | D                          |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 32.0                        | 40.0   | 50.0                | 58.0                       |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00                        |  |                     |                            |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|  | A                           | B  | C                   |                            |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 32.0                        | 40.0   | 50.0                |                            |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00                        |  |                     |                            |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|  | A                           | B  | C                   | D                          |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 15.5                        | 19.5   | 24.5                | 28.5                       |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00                        |  |                     |                            |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|  | A                           | B  | C                   | D                          |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 31.0                        | 39.0   | 49.0                | 57.0                       |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00                        |  |                     |                            |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |      |      |      |     |      |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |   |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |

of these wagons, the load limit markings may be marginally higher or lower than those depicted here.

(as specified in the German Railway Construction and Operating Regulations, EBO) and is only authorised for use on selected and approved lines.

when partition is in use:

12660 mm

2x 12630 mm

2x 12660 mm

14516 mm

2x 14516 mm

\*) The Hirrs-tt 325 is a twin articulated vehicle consisting of two permanently coupled Hbis-tt 293 wagons. The minimum negotiable curve radius is 135 m. Curves with a radius as small as 75 m can be negotiated by "extending" the permanent coupler.

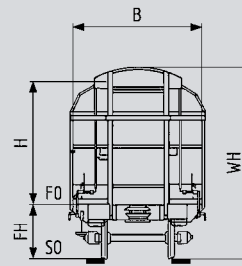
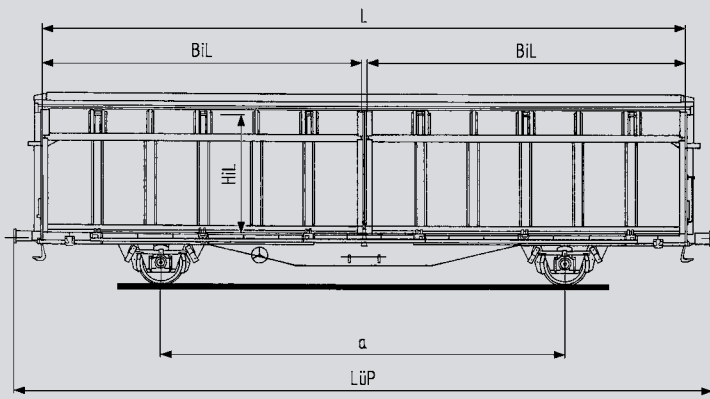
\*\*) The Himms-tt 326 is a twin articulated vehicle consisting of two permanently coupled Hbbins-tt 309 wagons. The minimum negotiable curve radius is 90 m. Curves with a radius as small as 75 m can be negotiated by "extending" the permanent coupler.

# High-capacity sliding-wall covered wagons

## Hbbills 310



| UIC wagon classification code and DB-specific type number |        |                |  | 4 lockable partitions Hbbills 311 |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|---|--------|----------------|--|-----------------------------------|--|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|
| Loading length  | L      | mm             | 15990 <sup>1)</sup>  |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Loading width   | B      | mm             | 2900   |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Loading height up to top of partition                     | H      | mm             | 3215   |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Floor area  |        | m <sup>2</sup> | 46.4   |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Max. loading capacity                                     |        | m <sup>3</sup> | 140.4  |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Sliding-wall access                                       | Width  | BiL            | mm   | 7815                              |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|   | Height | HiL            | mm   | 3215                              |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Floor height  | FH     | mm             | 1200   |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Height of wagon   | WH     | mm             | 4665   |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Number of axles   |        |                | 2  |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Distance between axles or between bogie pivots            | a or A | mm             | 10000  |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Parking brake   |        |                | fitted   |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Length over buffers                                       | LüP    | mm             | 17250  |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Average tare weight of wagon                              |        | kg             | 17800  |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Load limits   |        | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>14.0</td> <td>18.0</td> <td>23.0</td> <td>27.0</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table> |                                   |  |  | A | B | C | D | S | 14.0 | 18.0 | 23.0 | 27.0 | 120 | 0.00 |  |  |  |
|   | A      | B              | C  | D                                 |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S   | 14.0   | 18.0           | 23.0   | 27.0                              |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120   | 0.00   |                |  |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Note about information in load limit panels               |        |                | As a result of the different technical   |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Special features  |        |                | <sup>1)</sup> effective loading length when lockable partitions are in use:<br>15191 mm  |                                   |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |



| Hbillns 302 <sup>2)</sup> , Hbillns 303 <sup>3)</sup>   | 6 lockable partitions<br>Hbbillns 305 <sup>2)</sup>  | Hbbills 310   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
|---|--|---|------|------|----|-----|------|------|------|------|------|--|-----|------|--|--|--|--|--------|---|------|---|-----|------|-----|------|---|--|---|---|---|---|----|----|----|---|------|------|------|------|--|-----|------|-----|------|--|--|--|--|--|--|--|--|---|---|---|---|----|---|------|------|------|------|--|-----|------|--|--|--|--|
| 12776 <sup>1)</sup>   | 14236 <sup>1)</sup>  | 15986 <sup>1)</sup>   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 2670  | 2900   | 2900  |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 2250  | 2400   | 2850  |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 34.1  | 41.3   | 46.4  |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 76.7  | 105.0  | 126.1   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 6318  | 7018   | 7815  |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 2200  | 2600   | 2850  |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 1200  | 1200   | 1200  |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 4270  | 4255   | 4295  |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 2   | 2  | 2   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 9000  | 9000   | 10000   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| not fitted  | fitted in some cases   | fitted in some cases  |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 14220   | 15500  | 17250   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 15800   | 16400  | 17800   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td><td>**</td></tr> <tr><td>S</td><td>16.0</td><td>20.0</td><td>25.0</td><td>29.0</td><td></td></tr> <tr><td>120</td><td colspan="4">0.00</td><td></td></tr> </table><br><table border="1"> <tr><td>DB/ÖBB</td><td>C</td><td>SNCF</td><td>C</td></tr> <tr><td>100</td><td>26.0</td><td>100</td><td>25.5</td></tr> </table> |  | A   | B    | C    | D  | **  | S    | 16.0 | 20.0 | 25.0 | 29.0 |  | 120 | 0.00 |  |  |  |  | DB/ÖBB | C | SNCF | C | 100 | 26.0 | 100 | 25.5 | <sup>2)</sup> <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td><td>**</td><td>DB</td><td>CM</td></tr> <tr><td>S</td><td>15.5</td><td>19.5</td><td>24.5</td><td>28.5</td><td></td><td>100</td><td>25.5</td></tr> <tr><td>120</td><td colspan="4">0.00</td><td></td><td></td><td></td></tr> </table> |  | A | B | C | D | ** | DB | CM | S | 15.5 | 19.5 | 24.5 | 28.5 |  | 100 | 25.5 | 120 | 0.00 |  |  |  |  |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td><td>**</td></tr> <tr><td>S</td><td>14.0</td><td>18.0</td><td>23.0</td><td>27.0</td><td></td></tr> <tr><td>120</td><td colspan="4">0.00</td><td></td></tr> </table> |  | A | B | C | D | ** | S | 14.0 | 18.0 | 23.0 | 27.0 |  | 120 | 0.00 |  |  |  |  |
|   | A  | B   | C    | D    | ** |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| S   | 16.0   | 20.0  | 25.0 | 29.0 |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 120   | 0.00   |   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| DB/ÖBB  | C  | SNCF  | C    |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 100   | 26.0   | 100   | 25.5 |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
|   | A  | B   | C    | D    | ** | DB  | CM   |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| S   | 15.5   | 19.5  | 24.5 | 28.5 |    | 100 | 25.5 |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 120   | 0.00   |   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
|   | A  | B   | C    | D    | ** |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| S   | 14.0   | 18.0  | 23.0 | 27.0 |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 120   | 0.00   |   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.   |  |   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
|   | <sup>1)</sup> with thermally insulated freight compartment for products that are sensitive to cold | Fitted with lateral freight securing equipment to protect the load. |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| <sup>1)</sup> effective loading length when 6 lockable partitions are in use:   |  |   |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |
| 12191 mm  | 13660 mm   | 15191 mm  |      |      |    |     |      |      |      |      |      |  |     |      |  |  |  |  |        |   |      |   |     |      |     |      |   |  |   |   |   |   |    |    |    |   |      |      |      |      |  |     |      |     |      |  |  |  |  |  |  |  |  |   |   |   |   |    |   |      |      |      |      |  |     |      |  |  |  |  |

# High-capacity sliding-wall covered wagons



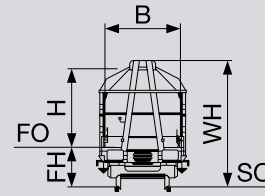
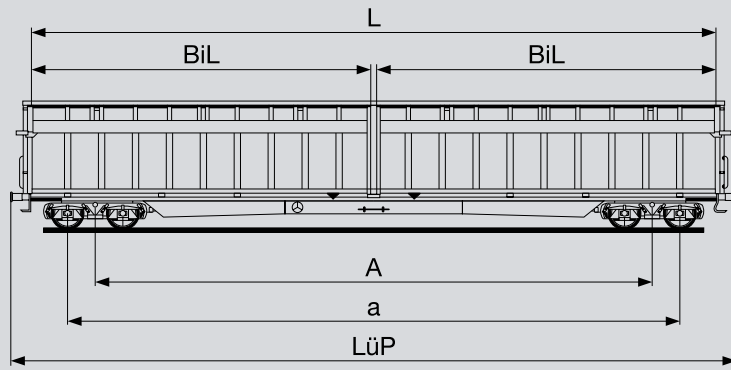
Chocks specially developed by DB prevent paper rolls from moving during transport.



Habbiins 344

| UIC wagon classification code and DB-specific type number |                             |                |   | Wagons without partitions<br>Habbiins 344 <sup>1)</sup> , Habbiins 352 <sup>2)</sup> |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
|---|-----------------------------|----------------|---|--|----|--|---|---|---|---|--|---|------|------|------|------|----|-----|------|--|--|--|--|
| Loading length  | L                           | mm             | 22640   |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Loading width   | between the sliding walls   | B              | mm  | 2820   |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
|   | between the central pillars | B              | mm  | 2810   |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Loading height<br>up to top of partition                  | H                           | mm             | 2800  |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Floor area  |                             | m <sup>2</sup> | 63.8  |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Max. loading capacity                                     |                             | m <sup>3</sup> | 170.0   |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Sliding-wall access                                       | Width                       | BiL            | mm  | 11140  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
|   | Height                      | HiL            | mm  | 2800   |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Floor height  | FH                          | mm             | 1200  |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Height of wagon   | WH                          | mm             | 4275  |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Number of axles   |                             |                | 4   |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Distance between bogie pivots                             | A                           | mm             | 18360   |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Parking brake   |                             |                | not fitted  |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Length over buffers                                       | LüP                         | mm             | 23900   |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Average tare weight of wagon                              |                             | kg             | 27000   |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Load limits   |                             | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th></th> </tr> </thead> <tbody> <tr> <td>S</td> <td>37.0</td> <td>45.0</td> <td>55.0</td> <td>63.0</td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> <td></td> </tr> </tbody> </table>                  |  |    |  | A | B | C | D |  | S | 37.0 | 45.0 | 55.0 | 63.0 | ** | 120 | 0.00 |  |  |  |  |
|   | A                           | B              | C   | D  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| S   | 37.0                        | 45.0           | 55.0  | 63.0   | ** |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| 120   | 0.00                        |                |   |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |
| Special features  |                             |                | <sup>1)</sup> 24 quick-fit chocks to secure paper rolls with their winding axes lying crosswise or lengthwise.<br>Unused chocks are stored within the wagon.<br>20 floor-level ratchet straps along each long side of the wagon.<br>4 ratchet straps fitted to each end wall.<br>Partitions can be retrofitted. |  |    |  |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |  |





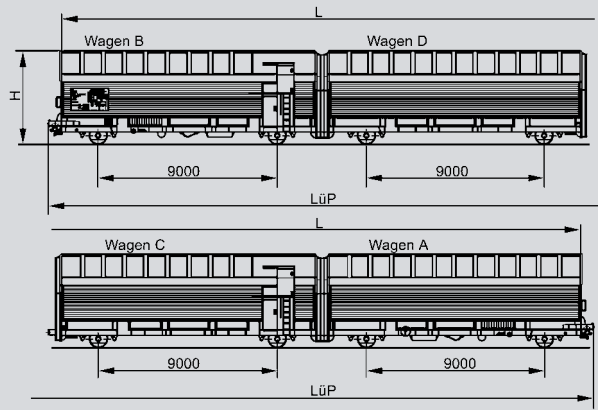
| Sliding-wall bogie covered wagons  |      |            |      |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
|--|------|------------|------|---|---|---|------|------|------|------|-----|------|--|--|--|--|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|--|--|---|---|---|---|---|------|------|------|------|-----|------|--|--|--|
| Habbins 345 <sup>2)</sup> , Habbills 346 <sup>1)</sup>   |      | Habins 347 |      | Habbins 350 <sup>1)</sup> , Habbills 351 <sup>2)</sup>  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 22866 <sup>2) 3)</sup>   |      | 21976      |      | 22000 <sup>1) 3)</sup>  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 2740   |      | 2780       |      | 2840  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 2740   |      | 2780       |      | 2840  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 2355   |      | 2800       |      | 2800  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 62.5   |      | 61.1       |      | 62.48 <sup>1)</sup> , 60.38 <sup>2)</sup>   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 165.6  |      | 164.4      |      | 167.4 <sup>1)</sup> , 161.8 <sup>2)</sup>   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 11319  |      | 10808      |      | 10813   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 2800   |      | 2800       |      | 2800  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 1200   |      | 1200       |      | 1200  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 4270   |      | 4270       |      | 4275  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 4  |      | 4          |      | 4   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 18590  |      | 17700      |      | 17724   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| fitted   |      | not fitted |      | fitted in some cases  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 24130  |      | 23240      |      | 23264   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 31868 <sup>1)</sup> , 29770 <sup>2)</sup>  |      | 27000      |      | 26500 <sup>1)</sup> , 28500 <sup>2)</sup>   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| <sup>1)</sup> <table border="1"> <thead> <tr><th>A</th><th>B</th><th>C</th><th>D</th></tr> </thead> <tbody> <tr><td>S</td><td>32.0</td><td>40.0</td><td>50.0</td><td>58.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </tbody> </table> |      | A          | B    | C   | D | S | 32.0 | 40.0 | 50.0 | 58.0 | 120 | 0.00 |  |  |  | <sup>1)</sup> <table border="1"> <thead> <tr><th>A</th><th>B</th><th>C</th><th>D</th></tr> </thead> <tbody> <tr><td>S</td><td>37.0</td><td>45.0</td><td>55.0</td><td>63.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </tbody> </table> |  | A | B | C | D | S | 37.0 | 45.0 | 55.0 | 63.0 | 120 | 0.00 |  |  |  | <sup>1)</sup> <table border="1"> <thead> <tr><th>A</th><th>B</th><th>C</th><th>D</th></tr> </thead> <tbody> <tr><td>S</td><td>37.5</td><td>45.5</td><td>55.5</td><td>63.5</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </tbody> </table> |  | A | B | C | D | S | 37.5 | 45.5 | 55.5 | 63.5 | 120 | 0.00 |  |  |  |
| A  | B    | C          | D    |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 32.0 | 40.0       | 50.0 | 58.0  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00 |            |      |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| A  | B    | C          | D    |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 37.0 | 45.0       | 55.0 | 63.0  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00 |            |      |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| A  | B    | C          | D    |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 37.5 | 45.5       | 55.5 | 63.5  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00 |            |      |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| <sup>2)</sup> <table border="1"> <thead> <tr><th>A</th><th>B</th><th>C</th><th>D</th></tr> </thead> <tbody> <tr><td>S</td><td>34.0</td><td>42.0</td><td>52.0</td><td>60.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </tbody> </table> |      | A          | B    | C   | D | S | 34.0 | 42.0 | 52.0 | 60.0 | 120 | 0.00 |  |  |  | <sup>2)</sup> <table border="1"> <thead> <tr><th>A</th><th>B</th><th>C</th><th>D</th></tr> </thead> <tbody> <tr><td>S</td><td>34.0</td><td>42.0</td><td>52.0</td><td>60.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </tbody> </table> |  | A | B | C | D | S | 34.0 | 42.0 | 52.0 | 60.0 | 120 | 0.00 |  |  |  | <sup>2)</sup> <table border="1"> <thead> <tr><th>A</th><th>B</th><th>C</th><th>D</th></tr> </thead> <tbody> <tr><td>S</td><td>36.5</td><td>44.5</td><td>54.5</td><td>62.5</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </tbody> </table> |  | A | B | C | D | S | 36.5 | 44.5 | 54.5 | 62.5 | 120 | 0.00 |  |  |  |
| A  | B    | C          | D    |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 34.0 | 42.0       | 52.0 | 60.0  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00 |            |      |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| A  | B    | C          | D    |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 34.0 | 42.0       | 52.0 | 60.0  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00 |            |      |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| A  | B    | C          | D    |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 36.5 | 44.5       | 54.5 | 62.5  |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00 |            |      |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |
| <sup>1)</sup> with lockable partitions<br><sup>2)</sup> without lockable partitions<br><sup>3)</sup> effective loading length when 8 lockable partitions are in use: 21800 mm  |      |            |      | <sup>1)</sup> without lockable partitions<br><sup>2)</sup> with lockable partitions<br><sup>3)</sup> effective loading length when 8 lockable partitions are in use: approx. 21260 mm |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |  |  |   |   |   |   |   |      |      |      |      |     |      |  |  |  |

# Four-part, covered, double-deck car transporter

## Hcceers 330

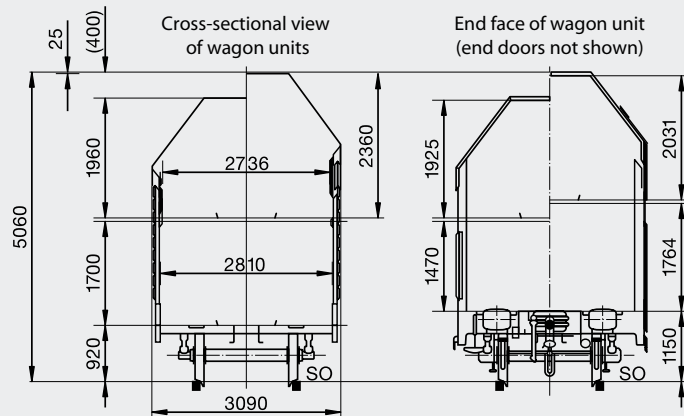


| UIC wagon classification code and DB-specific type number |                          |                |    | Hcceers 330  |  |   |   |   |   |      |  |  |     |      |  |
|---|--------------------------|----------------|----|--|--|---|---|---|---|------|--|--|-----|------|--|
| Loading length  | L                        | mm             |    | upper deck 52500<br>lower deck 52680   |  |   |   |   |   |      |  |  |     |      |  |
| Loading width   | B                        | mm             |    | upper deck 2738<br>lower deck 2810   |  |   |   |   |   |      |  |  |     |      |  |
| Headroom  | upper deck, roof lowered | H              | mm | see drawing  |  |   |   |   |   |      |  |  |     |      |  |
|   | upper deck, roof raised  | H              | mm | “Cross-sectional views of wagon units”   |  |   |   |   |   |      |  |  |     |      |  |
|   | lower deck               | H <sub>1</sub> | mm | see drawing<br>“Cross-sectional views of wagon units”  |  |   |   |   |   |      |  |  |     |      |  |
| Height of wagon   | WH                       | mm             |    | 4660   |  |   |   |   |   |      |  |  |     |      |  |
| Number of axles   |                          |                |    | 8  |  |   |   |   |   |      |  |  |     |      |  |
| Length over buffers                                       | LüP                      | mm             |    | 54000  |  |   |   |   |   |      |  |  |     |      |  |
| Average tare weight of wagon                              |                          | kg             |    | 65060  |  |   |   |   |   |      |  |  |     |      |  |
| Load limits   |                          | t              |    |  |  |   |   |   |   |      |  |  |     |      |  |
|   |                          |                |    | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td colspan="3">48.0</td> </tr> <tr> <td>120</td> <td colspan="3">0.00</td> </tr> </tbody> </table> <p style="text-align: right;">**</p>   |  | A | B | C | S | 48.0 |  |  | 120 | 0.00 |  |
|   | A                        | B              | C  |  |  |   |   |   |   |      |  |  |     |      |  |
| S   | 48.0                     |                |    |  |  |   |   |   |   |      |  |  |     |      |  |
| 120   | 0.00                     |                |    |  |  |   |   |   |   |      |  |  |     |      |  |
| Special features  |                          |                |    | <ul style="list-style-type: none"> <li>• Used for high-volume rail freight shipments</li> <li>• Completely closed units with end doors at the ends of each unit and full-width gangway at the inner coupling ends</li> <li>• Electro-hydraulic support for all loading and unloading functions</li> <li>• Interior lighting</li> </ul> |  |   |   |   |   |      |  |  |     |      |  |
| Notes   |                          |                |    | Units 000-1 to 077-9 are electrically compatible with units 078-7 to 097-7. However, the difference of 80 mm in the loading heights of the lower decks means that it is not possible to move vehicles between the upper decks of neighbouring wagon units.   |  |   |   |   |   |      |  |  |     |      |  |

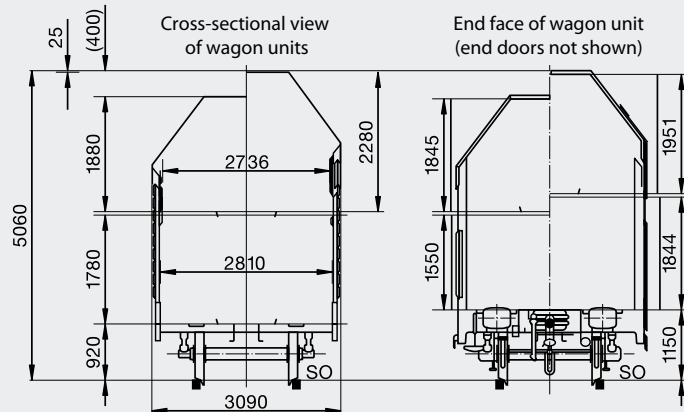


## Cross-sectional views of wagon units

Wagon numbers  
45802914000-1  
to  
45802914077-9



Wagon numbers  
45802914078-7  
to  
45802914097-7



# Flat wagons



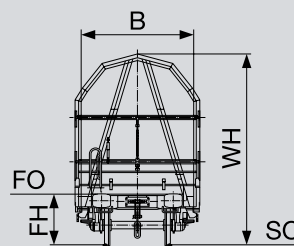
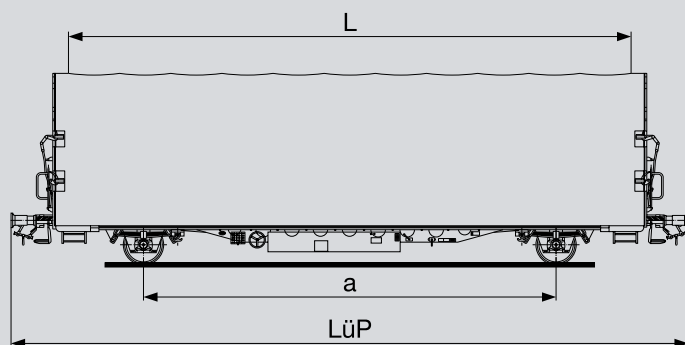
Kijls 450

Type K flat wagons are equipped with end boards and side boards. The boards can be folded down and the loading area then accessed for loading or unloading via end or side ramps. Some of these wagons are fitted with side and end stanchions making them ideal for transporting goods with large space requirements, such as wood of all types, peat, pipes and steel structures. The other wagons in this class are designed for transporting bulk materials, such as loose rock, aggregate, and sand, or concentrated loads, like iron and steel products, natural stone, semi-finished products, machinery and vehicles. The inside faces of the boards on all the wagons have fixing rings for securing the load, while the outer faces are fitted with fixing rings for fastening wagon sheets (see page 11). In Klps wagons, the end flaps on the side boards have been removed and these wagons are used primarily as runner wagons to protect extra long loads.

**Note:** Hinged side-board end flaps that have been dropped but not removed will exceed the loading gauge.

| Wagon type | Pos | Loading length H (mm) | Loading width B (mm) | Cross-sectional view of loading area |
|------------|-----|-----------------------|----------------------|--------------------------------------|
| Kijls 450  | 1   | 1650                  | 2850                 |                                      |
|            |     | 2000                  | 2713                 |                                      |
|            |     | 2100                  | 2651                 |                                      |
|            |     | 2200                  | 2588                 |                                      |
|            |     | 2300                  | 2526                 |                                      |
|            |     | 2400                  | 2464                 |                                      |
|            | 2   | 2500                  | 2394                 |                                      |
|            |     | 2600                  | 2340                 |                                      |
|            | 3   | 2700                  | 2147                 |                                      |
|            |     | 2800                  | 1954                 |                                      |
|            |     | 2880                  | 1800                 |                                      |
|            |     | 2900                  | 1650                 |                                      |
|            | 4   | 3000                  | 900                  |                                      |
|            |     | 3100                  | 150                  |                                      |
|            |     | 3120                  | 0                    |                                      |

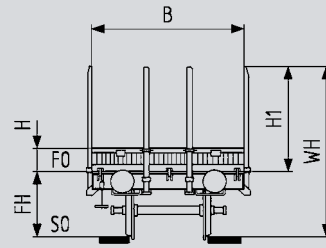
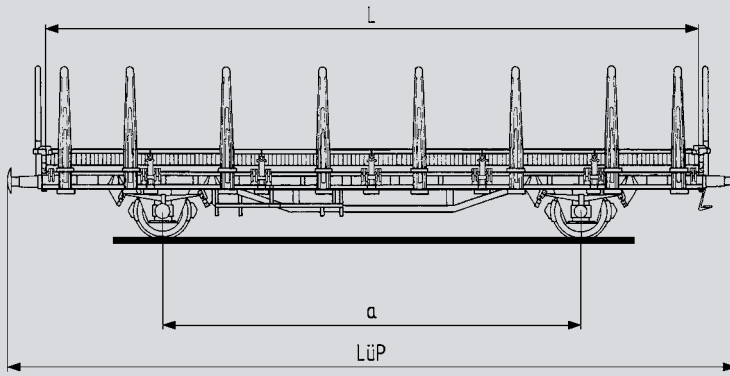
The new two-axle Kijls 450 wagon is a cushioned flat wagon with end walls, a sliding tarpaulin canopy, side load securing equipment and a loading length of 14500 mm. These wagons are particularly suitable for transporting shock- and moisture-sensitive goods.



| UIC wagon classification code and DB-specific type number |   |                | Kijls 450  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
|---|---|----------------|--|------|----|--|--|---|---|---|---|--|---|------|------|------|------|-----|------|------|------|-----|-----|------|------|------|-----|-----|------|------|------|------|------|------|------|------|-----|------|------|------|------|
| Loading length  | L   | mm             | 14150  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Loading width   | B   | mm             | 2850   |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Floor area  |   | m <sup>2</sup> | 40.3   |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Load capacity   |   | m <sup>3</sup> | 109  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Floor height  | FH  | mm             | 1230   |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Height of wagon   | WH  | mm             | 4642   |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Number of axles   |   |                | 2  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Distance between axles                                    | a   | mm             | 10000  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Length over buffers                                       | LüP   | mm             | 16500  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Average tare weight of wagon                              |   | kg             | 17150  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Load limits   |   | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th></th> </tr> </thead> <tbody> <tr> <td>S</td> <td>14.5</td> <td>18.5</td> <td>23.5</td> <td>27.5</td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> <td></td> </tr> <tr> <th>DB</th> <th>CM</th> <td colspan="3"></td> <td></td> </tr> <tr> <td>100</td> <td>24.5</td> <td colspan="3"></td> <td></td> </tr> </tbody> </table>  |      |    |  |  | A | B | C | D |  | S | 14.5 | 18.5 | 23.5 | 27.5 | **  | 120  | 0.00 |      |     |     |      | DB   | CM   |     |     |      |      | 100  | 24.5 |      |      |      |      |     |      |      |      |      |
|   | A   | B              | C  | D    |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| S   | 14.5  | 18.5           | 23.5   | 27.5 | ** |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| 120   | 0.00  |                |  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| DB  | CM  |                |  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| 100   | 24.5  |                |  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Concentrated loads  |   |                | <table border="1"> <thead> <tr> <th></th> <th colspan="2">m</th> <th colspan="2">t</th> </tr> <tr> <th></th> <th>—</th> <th>▲</th> <th>—</th> <th>▲</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>2.0</td> <td>20.0</td> <td>22.0</td> <td>22.0</td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>22.0</td> <td>24.0</td> <td>24.0</td> </tr> <tr> <td>c-c</td> <td>8.0</td> <td>25.0</td> <td>27.5</td> <td>27.5</td> </tr> <tr> <td>d-d</td> <td>10.0</td> <td>27.5</td> <td>27.5</td> <td>27.5</td> </tr> <tr> <td>e-e</td> <td>13.0</td> <td>27.5</td> <td>10.0</td> <td>10.0</td> </tr> </tbody> </table> |      |    |  |  | m |   | t |   |  | — | ▲    | —    | ▲    | a-a  | 2.0 | 20.0 | 22.0 | 22.0 | b-b | 5.0 | 22.0 | 24.0 | 24.0 | c-c | 8.0 | 25.0 | 27.5 | 27.5 | d-d  | 10.0 | 27.5 | 27.5 | 27.5 | e-e | 13.0 | 27.5 | 10.0 | 10.0 |
|   | m   |                | t  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
|   | —   | ▲              | —  | ▲    |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| a-a   | 2.0   | 20.0           | 22.0   | 22.0 |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| b-b   | 5.0   | 22.0           | 24.0   | 24.0 |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| c-c   | 8.0   | 25.0           | 27.5   | 27.5 |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| d-d   | 10.0  | 27.5           | 27.5   | 27.5 |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| e-e   | 13.0  | 27.5           | 10.0   | 10.0 |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |
| Special features  | <p>To protect the goods being transported, the wagon is equipped with an impact-absorbing device.</p> <p>Lashing rings with a strength of 30 kN are fitted at floor-level inside the wagon; nine along each long side of the wagon and two at each of the end faces. Each long side of the wagon has four stowage boxes set into the wagon floor. The boxes, which can be locked with a square socket key, contain 8-m long ratchet straps that can be used to secure the load.</p> |                |  |      |    |  |  |   |   |   |   |  |   |      |      |      |      |     |      |      |      |     |     |      |      |      |     |     |      |      |      |      |      |      |      |      |     |      |      |      |      |

# Flat wagons

| UIC wagon classification code and DB-specific type number |  |                   | Kbs 442   |            | Kls 442 |            |  |   |   |     |     |      |      |      |      |     |     |      |
|---|--|-------------------|---|------------|---------|------------|--|---|---|-----|-----|------|------|------|------|-----|-----|------|
| Loading length  | L  | mm                | 12500   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Loading width   | B  | mm                | 2770  |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Loading height  |  |                   |   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
|   | Height of board  | H mm              | 450   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
|   | Height of stanchion  | H <sub>1</sub> mm | 2012  | -          |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Floor area  |  | m <sup>2</sup>    | 34.6  |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Load capacity   |  | m <sup>3</sup>    | 15.6  |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Floor height  | FH   | mm                | 1238  |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Height of wagon   | WH   | mm                | 3250  | 1688       |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Number of axles   |  |                   | 2   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Distance between axles                                    | A  | mm                | 8000  |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| End platform  |  |                   | fitted  | not fitted | fitted  | not fitted |  |   |   |     |     |      |      |      |      |     |     |      |
| Length over buffers                                       | LüP  | mm                | 13960   | 13860      | 13960   | 13860      |  |   |   |     |     |      |      |      |      |     |     |      |
| Average tare weight of wagon                              |  | kg                | 12700   | 12350      | 12700   | 12350      |  |   |   |     |     |      |      |      |      |     |     |      |
| Load limits   |  | t                 | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>19.0</td> <td>23.0</td> <td>27.0</td> </tr> </tbody> </table> **  |            |         |            |  | A | B | C   | S   | 19.0 | 23.0 | 27.0 |      |     |     |      |
|   | A  | B                 | C   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| S   | 19.0   | 23.0              | 27.0  |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Concentrated loads  |  |                   | <table border="1"> <thead> <tr> <th></th> <th>m</th> <th>t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>2.0</td> <td>18.0</td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>21.0</td> </tr> <tr> <td>c-c</td> <td>8.0</td> <td>25.0</td> </tr> </tbody> </table> |            |         |            |  | m | t | a-a | 2.0 | 18.0 | b-b  | 5.0  | 21.0 | c-c | 8.0 | 25.0 |
|   | m  | t                 |   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| a-a   | 2.0  | 18.0              |   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| b-b   | 5.0  | 21.0              |   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| c-c   | 8.0  | 25.0              |   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Note about information in load limit panels               | As a result of the different technical   |                   |   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |
| Special features  | 16 side-wall stanchions,<br>4 end-wall stanchions,<br>distance between stanchions: 1800 mm |                   |   |            |         |            |  |   |   |     |     |      |      |      |      |     |     |      |



| Kbs 443  |            | Kls 443 |            | Ks 446   |      | Ks 447   |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
|--|------------|---------|------------|--|------|--|------|---------|------|--|--|--|--|---|---|---------|------|---------|------|---------|------|--|--|---|---|---------|------|---------|------|---------|------|
| 12500  |            |         |            | 12500  |      | 12500  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 2770   |            |         |            | 2780   |      | 2780   |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 450  |            |         |            | 450  |      | 450  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 2007   |            | -       |            | 1190   |      | 1330   |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 34.6   |            |         |            | 34.7   |      | 34.7   |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 15.6   |            |         |            | 15.6   |      | 15.6   |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 1238   |            |         |            | 1245   |      | 1250   |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 3250   |            | 1688    |            | 3245   |      | 2580   |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 2  |            |         |            | 2  |      | 2  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 8000   |            |         |            | 8000   |      | 8000   |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| fitted   | not fitted | fitted  | not fitted | not fitted   |      | fitted   |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 13960  | 13860      | 13960   | 13860      | 13860  |      | 14230  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 12600  | 12500      | 12700   | 12350      | 12500  |      | 12500  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>19.0</td><td>23.0</td><td>27.0</td></tr> </table>  |            |         | A          | B  | C    | S  | 19.0 | 23.0    | 27.0 |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>19.0</td><td>23.0</td><td>27.0</td></tr> </table>  |  |   | A | B       | C    | S       | 19.0 | 23.0    | 27.0 | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>19.0</td><td>23.0</td><td>27.0</td></tr> </table>  |  |   | A | B       | C    | S       | 19.0 | 23.0    | 27.0 |
|  | A          | B       | C          |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| S  | 19.0       | 23.0    | 27.0       |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
|  | A          | B       | C          |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| S  | 19.0       | 23.0    | 27.0       |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
|  | A          | B       | C          |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| S  | 19.0       | 23.0    | 27.0       |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| <table border="1"> <tr><td>m</td><td>t</td></tr> <tr><td>a-a 2.0</td><td>18.0</td></tr> <tr><td>b-b 5.0</td><td>21.0</td></tr> <tr><td>c-c 8.0</td><td>25.0</td></tr> </table> |            | m       | t          | a-a 2.0  | 18.0 | b-b 5.0  | 21.0 | c-c 8.0 | 25.0 |  |  | <table border="1"> <tr><td>m</td><td>t</td></tr> <tr><td>a-a 3.0</td><td>16.0</td></tr> <tr><td>b-b 5.0</td><td>19.0</td></tr> <tr><td>c-c 8.0</td><td>23.0</td></tr> </table> |  | m | t | a-a 3.0 | 16.0 | b-b 5.0 | 19.0 | c-c 8.0 | 23.0 | <table border="1"> <tr><td>m</td><td>t</td></tr> <tr><td>a-a 2.0</td><td>16.0</td></tr> <tr><td>b-b 5.0</td><td>19.0</td></tr> <tr><td>c-c 8.0</td><td>23.0</td></tr> </table> |  | m | t | a-a 2.0 | 16.0 | b-b 5.0 | 19.0 | c-c 8.0 | 23.0 |
| m  | t          |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| a-a 2.0  | 18.0       |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| b-b 5.0  | 21.0       |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| c-c 8.0  | 25.0       |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| m  | t          |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| a-a 3.0  | 16.0       |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| b-b 5.0  | 19.0       |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| c-c 8.0  | 23.0       |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| m  | t          |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| a-a 2.0  | 16.0       |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| b-b 5.0  | 19.0       |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| c-c 8.0  | 23.0       |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.  |            |         |            |  |      |  |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |
| 16 side-wall stanchions,<br>4 end-wall stanchions,<br>distance between stanchions: 1800 mm   |            |         |            | 12 side-wall swivel stanchions,<br>max. distance between stanchions: 2086 mm |      | 12 side-wall swivel stanchions,<br>max. distance between stanchions: 2100 mm |      |         |      |  |  |  |  |   |   |         |      |         |      |         |      |  |  |   |   |         |      |         |      |         |      |

# Car transporter wagons with three and four axles



Laaers 560

The articulated three-axle wagons of type Laekks 552 are designed for transporting cars, SUVs, vans and light commercial vehicles.

The Laaeks/Laaes 553 and Laaes 556 wagons are four-axle, tight-coupled car carriers designed for use in international car shipments.

The four-axle, tight-coupled car carriers of type Laadrs 557 are flat wagons specially designed for transporting vans and lightweight utility and commercial vehicles.

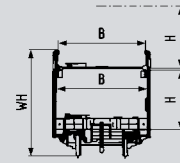
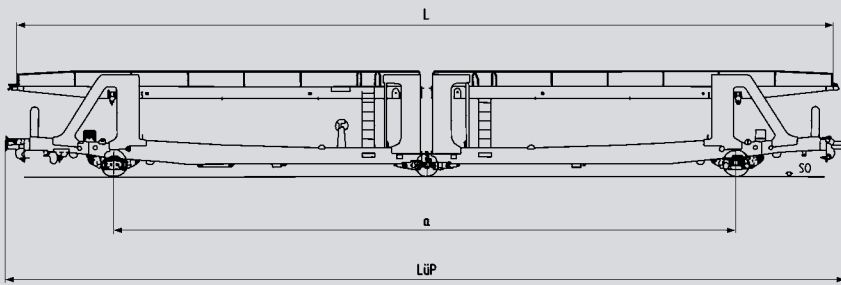
The articulated three-axle Laes 559 wagons were developed from the earlier Laekks 552 wagon. Like its predecessor, the Laes 559 wagon is also used for transporting cars, SUVs, vans and light-duty commercial vehicles.

The four-axle, tight-coupled car-carrying wagons of type Laaers 560 are deployed for international rail shipping of cars, SUVs and vans. With a load limit of 34 tonnes, this wagon is capable of carrying particularly heavy vehicles of the types mentioned.

The upper deck on all of these wagons can be set to a range of different heights in order to facilitate loading of different types of road vehicles. The height of the upper deck can be adjusted even more finely on the type 552 and type 559 wagons, while in the type 560 wagon, the height setting is continuously adjustable. In addition, the upper loading deck can be lowered completely on the Laekks 552 and Laes 559 wagons.

| UIC wagon classification code and DB-specific type number |                   |                |    | Laekks 552   |  |   |   |   |   |      |  |    |
|---|-------------------|----------------|----|--|--|---|---|---|---|------|--|----|
| Loading length  | upper deck        | L <sub>o</sub> | mm | 25730  |  |   |   |   |   |      |  |    |
|   | lower deck        | L <sub>u</sub> | mm | 25430  |  |   |   |   |   |      |  |    |
| Loading width   | upper deck        | B <sub>o</sub> | mm | 2800   |  |   |   |   |   |      |  |    |
|   | lower deck        | B <sub>u</sub> | mm | 2948   |  |   |   |   |   |      |  |    |
| Height of floor above TOR                                 | at headstock      | FH             | mm | 1155   |  |   |   |   |   |      |  |    |
|   | between the axles |                | mm | 640  |  |   |   |   |   |      |  |    |
| Loading height  | upper deck        | H              | mm | min. 1665 / max. 2205  |  |   |   |   |   |      |  |    |
|   | lower deck        | H <sub>1</sub> | mm | min. 1270 / max. 2165  |  |   |   |   |   |      |  |    |
| Height of wagon   |                   | WH             | mm | 3241   |  |   |   |   |   |      |  |    |
| Number of axles   |                   |                |    | 3  |  |   |   |   |   |      |  |    |
| Distance between outer axles                              |                   | A              | mm | 20000  |  |   |   |   |   |      |  |    |
| Length over buffers                                       |                   | LüP            | mm | 26240  |  |   |   |   |   |      |  |    |
| Average tare weight of wagon                              |                   |                | kg | 25200  |  |   |   |   |   |      |  |    |
| Load limits   |                   |                | t  | <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td>A</td> <td>B</td> <td>C</td> </tr> <tr> <td>S</td> <td colspan="2">17.0</td> <td>**</td> </tr> </table> <p style="text-align: center; margin-top: 5px;">lower deck 12.0 / upper deck 10.0</p> |  | A | B | C | S | 17.0 |  | ** |
|   | A                 | B              | C  |  |  |   |   |   |   |      |  |    |
| S   | 17.0              |                | ** |  |  |   |   |   |   |      |  |    |
| Special features  |                   |                |    | Removable wagon:<br>accessories: 4 hand cranks   |  |   |   |   |   |      |  |    |





| Laaeks 553   | Laaes 556                                      | Laes 559                                       | Laers 560                                      | Laads 557     |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
|--|--|--|--|---------------|----|---|------|--|--|--|-----|------|--|--|--|--|--|---|---|---|----|---|------|--|--|--|--|--|---|---|---|----|---|------|------|--|--|-----|------|--|--|--|--|--|---|---|---|---|----|---|------|--|--|--|--|-----|------|--|--|--|--|--|--|---|---|---|----|---|------|--|--|--|-----|------|--|--|--|
| 26500  | 26500  | 26640  | 30550  | no upper deck |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 26100  | 26100  | 26160  | 30070  | 30000         |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 2910   | 2910   | 2794   | 2750   | -             |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 3000   | 3100   | 2926   | 2950   | 2800          |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 1200   | 1155   | 1201   | 1200   | 1165          |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 980  | 980  | 640  | 820  | -             |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| min. 1480/max. 1850  | min. 1482/max. 1852                            | min. 1462/max. 2302                            | min. 1305/max. 2090                            | -             |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| min. 1570/max. 1750  | min. 1589/max. 1684                            | min. 1153/max. 2141                            | min. 1308/max. 2100                            | max. 3485     |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 3400   | 3403   | 3400   | 3578   | 2276          |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 4  | 4  | 3  | 4  | 4             |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 22300  | 22300  | 20000  | 25160  | 24240         |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 27000  | 27000  | 27000  | 31000  | 31000         |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 26500  | 28800  | 28200  | 29600  | 28000         |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>**</td></tr> <tr><td>S</td><td colspan="3">18.5</td><td></td></tr> <tr><td>120</td><td colspan="3">0.00</td><td></td></tr> </table> <p>lower deck 12.0 / upper deck 10.0</p> |  | A  | B  | C             | ** | S | 18.5 |  |  |  | 120 | 0.00 |  |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>**</td></tr> <tr><td>S</td><td colspan="3">24.0</td><td></td></tr> </table> <p>lower deck 13.0 / upper deck 11.0</p> |  | A | B | C | ** | S | 24.0 |  |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>**</td></tr> <tr><td>S</td><td>19.5</td><td>20.0</td><td></td><td></td></tr> <tr><td>120</td><td colspan="3">0.00</td><td></td></tr> </table> <p>lower deck 12.0 / upper deck 12.0</p> |  | A | B | C | ** | S | 19.5 | 20.0 |  |  | 120 | 0.00 |  |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td><td>**</td></tr> <tr><td>S</td><td colspan="4">34.0</td><td></td></tr> <tr><td>120</td><td colspan="4">0.00</td><td></td></tr> </table> <p>lower deck 18.0 / upper deck 18.0</p> |  | A | B | C | D | ** | S | 34.0 |  |  |  |  | 120 | 0.00 |  |  |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>**</td></tr> <tr><td>S</td><td colspan="3">24.0</td><td></td></tr> <tr><td>120</td><td colspan="3">0.00</td><td></td></tr> </table> <p>per wagon: 12.0</p> |  | A | B | C | ** | S | 24.0 |  |  |  | 120 | 0.00 |  |  |  |
|  | A  | B  | C  | **            |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| S  | 18.5   |  |  |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 120  | 0.00   |  |  |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
|  | A  | B  | C  | **            |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| S  | 24.0   |  |  |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
|  | A  | B  | C  | **            |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| S  | 19.5   | 20.0   |  |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 120  | 0.00   |  |  |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
|  | A  | B  | C  | D             | ** |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| S  | 34.0   |  |  |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 120  | 0.00   |  |  |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
|  | A  | B  | C  | **            |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| S  | 24.0   |  |  |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| 120  | 0.00   |  |  |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |
| Removable wagon:<br>accessories: 4 hand cranks   | Removable wagon:<br>accessories: 4 hand cranks | Removable wagon:<br>accessories: 2 hand cranks | Removable wagon:<br>accessories: 4 hand cranks |               |    |   |      |  |  |  |     |      |  |  |  |  |  |   |   |   |    |   |      |  |  |  |  |  |   |   |   |    |   |      |      |  |  |     |      |  |  |  |  |  |   |   |   |   |    |   |      |  |  |  |  |     |      |  |  |  |  |  |  |   |   |   |    |   |      |  |  |  |     |      |  |  |  |

# Bogie flat wagons

## Rmms 663



Type R bogie flat wagons have loading lengths from 9.50 m to 25.00 m. These wagons are used for transporting:

- long, heavy products made from iron and steel (slabs, ingots, bars, rails, coils, wire, tubes, steel structures, machinery)
- prefabricated elements, wood, iron-ware, semi-finished products, stone and rock, vehicles, etc

The wagons for transporting these materials are available in a variety of configurations: with or without side and end boards, end walls, side and end stanchions and hinged bolsters.

### UIC wagon classification code and DB-specific type number

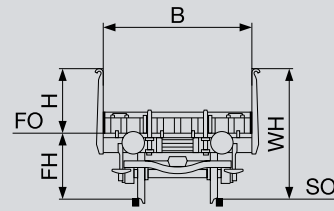
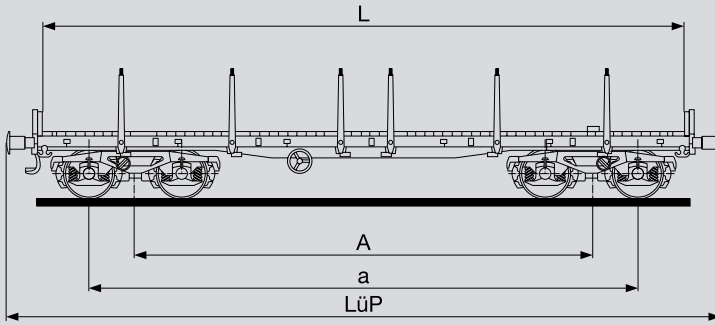
|                               |                |                |
|-------------------------------|----------------|----------------|
| Loading length                | L              | mm             |
| Loading width                 | B              | mm             |
| Loading height                |                |                |
| Height of board               | H              | mm             |
| Height of stanchion           | H <sub>1</sub> | mm             |
| Floor area                    |                | m <sup>2</sup> |
| Floor height                  | FH             | mm             |
| Height of bolsters            |                | mm             |
| Height of wagon               | WH             | mm             |
| Number of axles               |                |                |
| Distance between bogie pivots | A              | mm             |
| Distance between outer axles  | a              | mm             |
| Length over buffers           | LüP            | mm             |
| Average tare weight of wagon  |                | kg             |
| Load limits                   |                | t              |

### Concentrated loads

Note about information in load limit panels

Special features

Notes



| Rlmpms 651   | without side walls<br>Rmms 662         | Rmms 663 <sup>1)</sup> , 664 <sup>2)</sup> |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
|--|--|--|------|------|-----|-----|------|---|------|------|------|------|-----|-----|--|--|-----|-----|------|---|---|------|------|------|----|-----|-----|------|------|-----|-----|------|------|-----|-----|---|------|-----|------|------|------|---|------|------|------|------|-----|-----|------|------|-----|-----|------|------|-----|-----|------|------|-----|-----|------|------|-----|-----|------|------|-----|------|------|------|-----|------|------|------|
| 9500   | 11140                                  | 12644                                      |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 3150 over a length of 8400<br>3100 at the wagon ends   | 2850 <sup>1)</sup> /3150 <sup>2)</sup> | 2904                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| -  | -                                      | -  |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| -  | 520                                    | 1235                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 27.7   | 35.0                                   | 36.0                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 1291   | 1250                                   | 1260                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| -  | -                                      | 70   |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 1291   | 1835                                   | 2495                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 4  | 4                                      | 4  |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 6150   | 7500                                   | 9000                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 7950   | 9300                                   | 10800                                      |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 10740  | 12540                                  | 14040                                      |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 16300  | 19000                                  | 21000                                      |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C2</th> <th>C3</th> <th>D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>37.0</td> <td>52.0</td> <td>52.0</td> <td>59.5</td> <td colspan="2">**</td> </tr> </tbody> </table>  |  | A  | B1   | B2   | C2  | C3  | D4   | S | 37.0 | 52.0 | 52.0 | 59.5 | **  |     | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>43.5</td> <td>53.0</td> <td>61.0</td> <td>**</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>DB</th> <th>CM2</th> <th>CM3</th> <th>CM4</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>61.0</td> <td colspan="2">65.0</td> <td></td> </tr> </tbody> </table> |  | A   | B1  | B2   | C | S   | 43.5 | 53.0 | 61.0 | ** | DB  | CM2 | CM3  | CM4  | D   | 100 | 61.0 | 65.0 |     |     | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>43.0</td> <td>49.0</td> <td>51.0</td> <td>59.0</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th colspan="2">m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>2.0</td> <td>35.0</td> <td>40.0</td> </tr> <tr> <td>b-b</td> <td>3.0</td> <td>37.0</td> <td>47.0</td> </tr> <tr> <td>c-c</td> <td>5.0</td> <td>43.0</td> <td>56.0</td> </tr> <tr> <td>d-d</td> <td>7.0</td> <td>51.0</td> <td>56.0</td> </tr> <tr> <td>e-e</td> <td>9.0</td> <td>59.0</td> <td>59.0</td> </tr> <tr> <td>f-f</td> <td>12.0</td> <td>59.0</td> <td>24.0</td> </tr> </tbody> </table> |      | A   | B1   | B2   | C    | S   | 43.0 | 49.0 | 51.0 | 59.0 | m   |     | t    |      | a-a | 2.0 | 35.0 | 40.0 | b-b | 3.0 | 37.0 | 47.0 | c-c | 5.0 | 43.0 | 56.0 | d-d | 7.0 | 51.0 | 56.0 | e-e | 9.0  | 59.0 | 59.0 | f-f | 12.0 | 59.0 | 24.0 |
|  | A                                      | B1   | B2   | C2   | C3  | D4  |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| S  | 37.0                                   | 52.0                                       | 52.0 | 59.5 | **  |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
|  | A                                      | B1   | B2   | C    |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| S  | 43.5                                   | 53.0                                       | 61.0 | **   |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| DB   | CM2                                    | CM3  | CM4  | D    |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| 100  | 61.0                                   | 65.0                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
|  | A                                      | B1   | B2   | C    |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| S  | 43.0                                   | 49.0                                       | 51.0 | 59.0 |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| m  |  | t  |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| a-a  | 2.0                                    | 35.0                                       | 40.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| b-b  | 3.0                                    | 37.0                                       | 47.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| c-c  | 5.0                                    | 43.0                                       | 56.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| d-d  | 7.0                                    | 51.0                                       | 56.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| e-e  | 9.0                                    | 59.0                                       | 59.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| f-f  | 12.0                                   | 59.0                                       | 24.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| <table border="1"> <thead> <tr> <th colspan="2">m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>2.0</td> <td>43.0</td> <td></td> </tr> <tr> <td>b-b</td> <td>3.0</td> <td>48.0</td> <td></td> </tr> <tr> <td>c-c</td> <td>3.5</td> <td>52.0</td> <td></td> </tr> <tr> <td>d-d</td> <td>4.2</td> <td>59.5</td> <td></td> </tr> </tbody> </table> | m                                      |  | t    |      | a-a | 2.0 | 43.0 |   | b-b  | 3.0  | 48.0 |      | c-c | 3.5 | 52.0   |  | d-d | 4.2 | 59.5 |   | <table border="1"> <thead> <tr> <th colspan="2">m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3.0</td> <td>45.0</td> <td>40.0</td> </tr> <tr> <td>b-b</td> <td>6.0</td> <td>59.0</td> <td>59.0</td> </tr> <tr> <td>c-c</td> <td>7.5</td> <td>65.0</td> <td>65.0</td> </tr> <tr> <td>d-d</td> <td>11.0</td> <td>65.0</td> <td>25.0</td> </tr> </tbody> </table> | m    |      | t    |    | a-a | 3.0 | 45.0 | 40.0 | b-b | 6.0 | 59.0 | 59.0 | c-c | 7.5 | 65.0  | 65.0 | d-d | 11.0 | 65.0 | 25.0 | <table border="1"> <thead> <tr> <th colspan="2">m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>2.0</td> <td>35.0</td> <td>40.0</td> </tr> <tr> <td>b-b</td> <td>3.0</td> <td>37.0</td> <td>47.0</td> </tr> <tr> <td>c-c</td> <td>5.0</td> <td>43.0</td> <td>56.0</td> </tr> <tr> <td>d-d</td> <td>7.0</td> <td>51.0</td> <td>56.0</td> </tr> <tr> <td>e-e</td> <td>9.0</td> <td>59.0</td> <td>59.0</td> </tr> <tr> <td>f-f</td> <td>12.0</td> <td>59.0</td> <td>24.0</td> </tr> </tbody> </table> | m    |      | t    |      | a-a | 2.0 | 35.0 | 40.0 | b-b | 3.0 | 37.0 | 47.0 | c-c | 5.0 | 43.0 | 56.0 | d-d | 7.0 | 51.0 | 56.0 | e-e | 9.0 | 59.0 | 59.0 | f-f | 12.0 | 59.0 | 24.0 |     |      |      |      |
| m  |  | t  |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| a-a  | 2.0                                    | 43.0                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| b-b  | 3.0                                    | 48.0                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| c-c  | 3.5                                    | 52.0                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| d-d  | 4.2                                    | 59.5                                       |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| m  |  | t  |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| a-a  | 3.0                                    | 45.0                                       | 40.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| b-b  | 6.0                                    | 59.0                                       | 59.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| c-c  | 7.5                                    | 65.0                                       | 65.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| d-d  | 11.0                                   | 65.0                                       | 25.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| m  |  | t  |      |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| a-a  | 2.0                                    | 35.0                                       | 40.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| b-b  | 3.0                                    | 37.0                                       | 47.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| c-c  | 5.0                                    | 43.0                                       | 56.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| d-d  | 7.0                                    | 51.0                                       | 56.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| e-e  | 9.0                                    | 59.0                                       | 59.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |
| f-f  | 12.0                                   | 59.0                                       | 24.0 |      |     |     |      |   |      |      |      |      |     |     |  |  |     |     |      |   |   |      |      |      |    |     |     |      |      |     |     |      |      |     |     |   |      |     |      |      |      |   |      |      |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |     |      |      |     |      |      |      |     |      |      |      |

As a result of the different technical configurations of these wagons, the markings indicating load limits and permissible concentrated loads may be marginally higher or lower than those depicted here.

14 short side stanchions (fold-down stanchions), max. distance between stanchions: 1840 mm

12 side stanchions, 2 retractable stanchions at each end of wagon, drop ends, hinged bolsters, max. distance between stanchions: 2115 mm

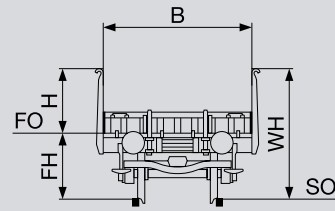
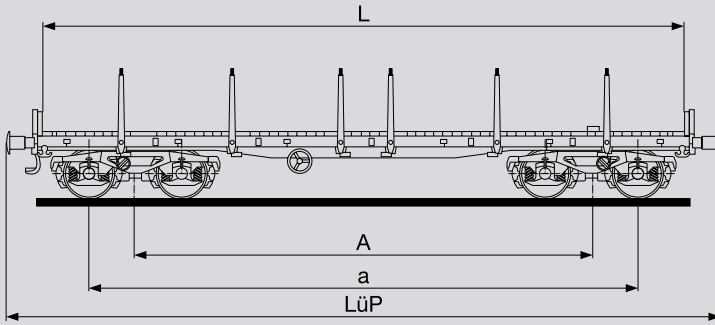
<sup>1)</sup> between the swivel stanchions  
<sup>2)</sup> without swivel stanchions

# Bogie flat wagons



Rs 680

| UIC wagon classification code and DB-specific type number |   |                | Rs-u 659  | Rs 680                                    | without |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
|---|---|----------------|---|---|---------|---|---|---|------|------|------|---|--|-----|------|------|------|------|------|------|------|------|--|-----|------|------|------|--|-----|------|------|------|--|---|--|---|--|---|--|-----|-----|------|------|--|-----|------|------|------|--|-----|------|------|------|--|--|
| Loading length  | L   | mm             | 20700   | 18500                                     |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Loading width   | B   | mm             | 2710  | 2780                                      |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Loading height  |   |                |   |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Height of board   | H   | mm             | -   | -   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Height of stanchion                                       | H <sub>1</sub>  | mm             | 1280  | 1300                                      |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Floor area  |   | m <sup>2</sup> | 56.1  | 51.0                                      |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Floor height  | FH  | mm             | 1290  | 1305                                      |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Height of bolsters  |   | mm             | 50  | 70  |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Height of wagon   | WH  | mm             | 2570  | 2605                                      |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Number of axles   |   |                | 4   | 4   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Distance between bogie pivots                             | A   | mm             | 16700   | 13000                                     |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Distance between outer axles                              | a   | mm             | 18500   | 15000                                     |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Length over buffers                                       | LüP   | mm             | 22240   | 19900 <sup>1)</sup> , 20000 <sup>2)</sup> |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Average tare weight of wagon                              |   | kg             | 25500   | 23700 <sup>1)</sup> , 24500 <sup>2)</sup> |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Load limits   |   | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>38.5</td> <td>46.5</td> <td>54.5</td> </tr> </tbody> </table>   |   | A       | B | C | S | 38.5 | 46.5 | 54.5 | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>40.0</td> <td>48.0</td> <td>56.0</td> </tr> </tbody> </table> |  | A   | B    | C    | S    | 40.0 | 48.0 | 56.0 | **   |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
|   | A   | B              | C   |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| S   | 38.5  | 46.5           | 54.5  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
|   | A   | B              | C   |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| S   | 40.0  | 48.0           | 56.0  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Concentrated loads  |   |                | <table border="1"> <thead> <tr> <th></th> <th colspan="2">m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3.0</td> <td>34.0</td> <td>35.0</td> <td></td> </tr> <tr> <td>b-b</td> <td>10.0</td> <td>37.0</td> <td>45.0</td> <td></td> </tr> <tr> <td>c-c</td> <td>13.0</td> <td>45.0</td> <td>48.0</td> <td></td> </tr> <tr> <td>d-d</td> <td>17.0</td> <td>51.0</td> <td>54.5</td> <td></td> </tr> <tr> <td>e-e</td> <td>20.0</td> <td>54.5</td> <td>24.0</td> <td></td> </tr> </tbody> </table> |   | m       |   | t |   | a-a  | 3.0  | 34.0 | 35.0  |  | b-b | 10.0 | 37.0 | 45.0 |      | c-c  | 13.0 | 45.0 | 48.0 |  | d-d | 17.0 | 51.0 | 54.5 |  | e-e | 20.0 | 54.5 | 24.0 |  | <table border="1"> <thead> <tr> <th></th> <th colspan="2">m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>3.0</td> <td>34.0</td> <td>37.5</td> <td></td> </tr> <tr> <td>b-b</td> <td>10.0</td> <td>37.0</td> <td>45.0</td> <td></td> </tr> <tr> <td>c-c</td> <td>13.0</td> <td>44.0</td> <td>56.0</td> <td></td> </tr> </tbody> </table> |  | m |  | t |  | a-a | 3.0 | 34.0 | 37.5 |  | b-b | 10.0 | 37.0 | 45.0 |  | c-c | 13.0 | 44.0 | 56.0 |  |  |
|   | m   |                | t   |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| a-a   | 3.0   | 34.0           | 35.0  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| b-b   | 10.0  | 37.0           | 45.0  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| c-c   | 13.0  | 45.0           | 48.0  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| d-d   | 17.0  | 51.0           | 54.5  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| e-e   | 20.0  | 54.5           | 24.0  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
|   | m   |                | t   |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| a-a   | 3.0   | 34.0           | 37.5  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| b-b   | 10.0  | 37.0           | 45.0  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| c-c   | 13.0  | 44.0           | 56.0  |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Note about information in load limit panels               | As a result of the different technical configurations of these wagons, the markings |                |   |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Special features  | 20 side stanchions, 2 retractable stanchions at each end of wagon,                  |                |   |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
|   | max. distance between stanchions: 1945 mm   |                | max. distance between stanchions: 2200 mm   |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |
| Notes   | <sup>1)</sup> without end platform<br><sup>2)</sup> with end platform               |                |   |   |         |   |   |   |      |      |      |   |  |     |      |      |      |      |      |      |      |      |  |     |      |      |      |  |     |      |      |      |  |   |  |   |  |   |  |     |     |      |      |  |     |      |      |      |  |     |      |      |      |  |  |



side walls

R(p)s 684<sup>1)</sup>, 685<sup>2)</sup>

R(p)s 689

Rps 688

18500

18500

18500

2774<sup>3)</sup>/2974<sup>4)</sup>

2770

2780<sup>1)</sup>/3030<sup>2)</sup>

-

-

-

1235

1275

1205

51.3

51.3

51.3

1260

1260

1305

70

70

70

2495

2535

2510

4

4

4

14860

14860

13000

16660

16660

15000

19900

19900

19900

25700<sup>1)</sup>/22800<sup>2)</sup>

23625

24200

|   |      |      |      |
|---|------|------|------|
|   | A    | B    | C    |
| S | 38.0 | 46.0 | 54.0 |

|   |      |      |      |
|---|------|------|------|
|   | A    | B    | C    |
| S | 41.0 | 49.0 | 57.0 |

|   |      |      |      |
|---|------|------|------|
|   | A    | B    | C    |
| S | 40.0 | 48.0 | 56.0 |

|   |      |      |      |
|---|------|------|------|
|   | A    | B    | C    |
| S | 39.5 | 47.5 | 55.5 |

|     |      |             |
|-----|------|-------------|
|     | m    | t           |
| a-a | 2.0  | 32.0   33.0 |
| b-b | 5.0  | 35.0   38.0 |
| c-c | 9.0  | 36.0   44.0 |
| d-d | 15.0 | 44.0   54.0 |
| e-e | 18.0 | 54.0   24.0 |

|     |      |             |
|-----|------|-------------|
|     | m    | t           |
| a-a | 2.0  | 32.0   33.0 |
| b-b | 5.0  | 35.0   38.0 |
| c-c | 9.0  | 36.0   44.0 |
| d-d | 15.0 | 44.0   57.0 |
| e-e | 18.0 | 57.0   24.0 |

|     |      |             |
|-----|------|-------------|
|     | m    | t           |
| a-a | 2.0  | 32.0   33.0 |
| b-b | 5.0  | 35.0   38.0 |
| c-c | 9.0  | 36.0   44.0 |
| d-d | 15.0 | 44.0   56.0 |
| e-e | 18.0 | 56.0   24.0 |

|     |      |             |
|-----|------|-------------|
|     | m    | t           |
| a-a | 3.0  | 34.0   37.0 |
| b-b | 10.0 | 37.0   45.0 |
| c-c | 13.0 | 44.0   55.5 |

indicating load limits and permissible concentrated loads may be marginally higher or lower than those depicted here.

drop ends, hinged bolsters

20 side stanchions, 2 retractable stanchions at each end of wagon, drop ends, hinged bolsters

16 side stanchions, no end boards

max. distance between stanchions: 2505 mm

max. distance between stanchions: 2800 mm

max. distance between stanchions: 2200 mm

<sup>3)</sup> between the swivel stanchions

<sup>1)</sup> between the swivel stanchions

<sup>4)</sup> without swivel stanchions

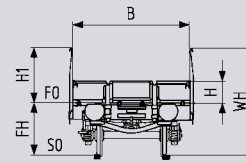
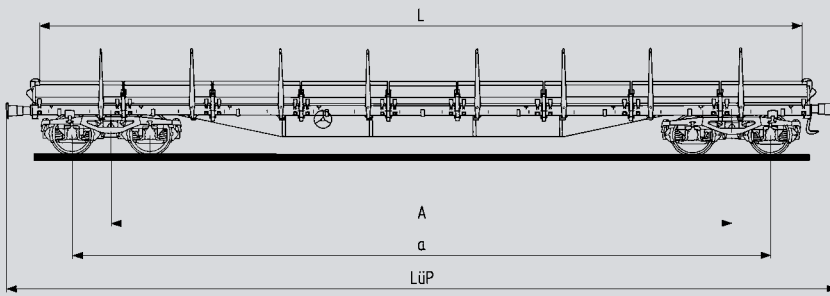
<sup>2)</sup> without swivel stanchions

# Bogie flat wagons

Res 686



| UIC wagon classification code and DB-specific type number |                |                | with side walls<br>Remms 665   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
|---|----------------|----------------|--|------|---|---|----|---|-----|------|------|------|------|-----|------|------|------|------|-----|-----|------|------|------|-----|-----|------|------|------|-----|------|------|------|------|
| Loading length  | L              | mm             | 12644  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Loading width   | B              | mm             | 2780/2904 <sup>1)</sup>  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Loading height  |                |                |  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Height of board   | H              | mm             | 520  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Height of stanchion                                       | H <sub>1</sub> | mm             | 1275   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Floor area  |                | m <sup>2</sup> | 36.0   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Floor height  | FH             | mm             | 1260   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Height of bolsters  |                | mm             | 70   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Height of wagon   | WH             | mm             | 2535   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Number of axles   |                |                | 4  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Distance between bogie pivots                             | A              | mm             | 9000   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Distance between outer axles                              | a              | mm             | 10800  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Length over buffers                                       | LüP            | mm             | 14040  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Average tare weight of wagon                              |                | kg             | 21450  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Load limits   |                | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>B2</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>42.5</td> <td>48.5</td> <td>50.5</td> <td>58.5</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table>  |      | A | B | B2 | C | S   | 42.5 | 48.5 | 50.5 | 58.5 | 120 | 0.00 |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
|   | A              | B              | B2   | C    |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| S   | 42.5           | 48.5           | 50.5   | 58.5 |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| 120   | 0.00           |                |  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Concentrated loads  |                |                | <table border="1"> <thead> <tr> <th></th> <th colspan="2">m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>2.0</td> <td>35.0</td> <td>35.0</td> <td>40.0</td> </tr> <tr> <td>b-b</td> <td>3.0</td> <td>37.0</td> <td>37.0</td> <td>47.0</td> </tr> <tr> <td>c-c</td> <td>5.0</td> <td>43.0</td> <td>43.0</td> <td>56.0</td> </tr> <tr> <td>d-d</td> <td>9.0</td> <td>58.5</td> <td>58.5</td> <td>58.5</td> </tr> <tr> <td>e-e</td> <td>12.0</td> <td>58.5</td> <td>24.0</td> <td>24.0</td> </tr> </tbody> </table> |      | m |   | t  |   | a-a | 2.0  | 35.0 | 35.0 | 40.0 | b-b | 3.0  | 37.0 | 37.0 | 47.0 | c-c | 5.0 | 43.0 | 43.0 | 56.0 | d-d | 9.0 | 58.5 | 58.5 | 58.5 | e-e | 12.0 | 58.5 | 24.0 | 24.0 |
|   | m              |                | t  |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| a-a   | 2.0            | 35.0           | 35.0   | 40.0 |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| b-b   | 3.0            | 37.0           | 37.0   | 47.0 |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| c-c   | 5.0            | 43.0           | 43.0   | 56.0 |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| d-d   | 9.0            | 58.5           | 58.5   | 58.5 |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| e-e   | 12.0           | 58.5           | 24.0   | 24.0 |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Note about information in load limit panels               |                |                | As a result of the different   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Special features  |                |                | Hinged bolsters, 12 side stanchions drop ends and drop sides. If sides have been dropped, wagon can only be conveyed as an out-of-gauge consignment, max. distance between stanchions: 2115 mm   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |
| Notes   |                |                | <sup>1)</sup> between side wall sections / between swivel stanchions   |      |   |   |    |   |     |      |      |      |      |     |      |      |      |      |     |     |      |      |      |     |     |      |      |      |     |      |      |      |      |



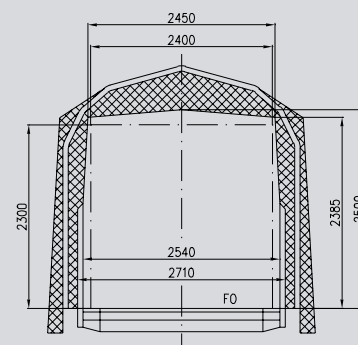
|   |             |   |   | with side walls   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
|---|-------------|---|---|---|-------------|--|-------------|---|-------------|----------|-------------|----------|-------------|---|------|--|---|---------|-------------|---------|-------------|---------|-------------|--|-------------|----------|-------------|---|------|------|------|---|-------------|---------|-------------|---------|-------------|----------|-------------|---|-------------|---|----|---|-----|---------|-------------|---|-------------|---------|-------------|----------|-------------|----------|-------------|---|--|----|----|---|-----|------|--|
| Res 675   |             | Res 676   |   | Res 677   |             | Res 686, Res 687   |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 18500   |             | 18500   |   | 18500   |             | 18500  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 2640/2760 <sup>1)</sup>   |             | 2530/2640 <sup>1)</sup>   |   | 2646/2766 <sup>1)</sup>   |             | 2650/2770 <sup>1)</sup>  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 520   |             | 520   |   | 525   |             | 520  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 1275  |             | 1275  |   | 1288  |             | 1300   |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 48.8  |             | 46.8  |   | 48.9  |             | 49.0   |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 1260  |             | 1260  |   | 1247  |             | 1238   |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| -   |             | -   |   | -   |             | -  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 2535  |             | 2535  |   | 2535  |             | 2538   |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 4   |             | 4   |   | 4   |             | 4  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 14860   |             | 14860   |   | 14860   |             | 14860  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 16660   |             | 16660   |   | 16660   |             | 16660  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 19900   |             | 19900   |   | 19900   |             | 19900  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 23500   |             | 24500   |   | 23500   |             | 24000  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| <table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>40.0</td><td>48.0</td><td>56.0</td></tr> </table>  |             | A   | B | C   | 40.0        | 48.0   | 56.0        | <table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>39.5</td><td>47.5</td><td>55.5</td></tr> </table>  |             | A        | B           | C        | 39.5        | 47.5  | 55.5 | <table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>40.0</td><td>48.0</td><td>56.0</td></tr> </table> |   | A       | B           | C       | 40.0        | 48.0    | 56.0        | <table border="1"> <tr><td>A</td><td>B</td><td>C</td></tr> <tr><td>40.0</td><td>48.0</td><td>56.0</td></tr> </table> |             | A        | B           | C   | 40.0 | 48.0 | 56.0 | <table border="1"> <tr><td>DB</td><td>CM</td><td>D</td></tr> <tr><td>100</td><td>60.0</td><td></td></tr> </table> |             | DB      | CM          | D       | 100         | 60.0     |             | <table border="1"> <tr><td>DB</td><td>CM</td><td>D</td></tr> <tr><td>100</td><td>59.5</td><td></td></tr> </table> |             | DB  | CM | D | 100 | 59.5    |             | <table border="1"> <tr><td>DB</td><td>CM</td><td>D</td></tr> <tr><td>100</td><td>60.0</td><td></td></tr> </table> |             | DB      | CM          | D        | 100         | 60.0     |             | <table border="1"> <tr><td>DB</td><td>CM</td><td>D</td></tr> <tr><td>100</td><td>60.0</td><td></td></tr> </table> |  | DB | CM | D | 100 | 60.0 |  |
| A   | B           | C   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 40.0  | 48.0        | 56.0  |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| A   | B           | C   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 39.5  | 47.5        | 55.5  |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| A   | B           | C   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 40.0  | 48.0        | 56.0  |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| A   | B           | C   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 40.0  | 48.0        | 56.0  |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| DB  | CM          | D   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 100   | 60.0        |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| DB  | CM          | D   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 100   | 59.5        |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| DB  | CM          | D   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 100   | 60.0        |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| DB  | CM          | D   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| 100   | 60.0        |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| <table border="1"> <tr><td>m</td><td>t</td></tr> <tr><td>a-a 2.0</td><td>32.0   33.0</td></tr> <tr><td>b-b 5.0</td><td>35.0   38.0</td></tr> <tr><td>c-c 9.0</td><td>36.0   44.0</td></tr> <tr><td>d-d 15.0</td><td>44.0   60.0</td></tr> <tr><td>e-e 18.0</td><td>60.0   24.0</td></tr> </table> |             | m   | t | a-a 2.0   | 32.0   33.0 | b-b 5.0  | 35.0   38.0 | c-c 9.0   | 36.0   44.0 | d-d 15.0 | 44.0   60.0 | e-e 18.0 | 60.0   24.0 | <table border="1"> <tr><td>m</td><td>t</td></tr> <tr><td>a-a 2.0</td><td>32.0   33.0</td></tr> <tr><td>b-b 5.0</td><td>35.0   38.0</td></tr> <tr><td>c-c 9.0</td><td>36.0   44.0</td></tr> <tr><td>d-d 15.0</td><td>44.0   59.5</td></tr> <tr><td>e-e 18.0</td><td>59.5   24.0</td></tr> </table> |      | m  | t | a-a 2.0 | 32.0   33.0 | b-b 5.0 | 35.0   38.0 | c-c 9.0 | 36.0   44.0 | d-d 15.0   | 44.0   59.5 | e-e 18.0 | 59.5   24.0 | <table border="1"> <tr><td>m</td><td>t</td></tr> <tr><td>a-a 2.0</td><td>32.0   33.0</td></tr> <tr><td>b-b 5.0</td><td>35.0   38.0</td></tr> <tr><td>c-c 9.0</td><td>36.0   44.0</td></tr> <tr><td>d-d 15.0</td><td>44.0   60.0</td></tr> <tr><td>e-e 18.0</td><td>60.0   24.0</td></tr> </table> |      | m    | t    | a-a 2.0   | 32.0   33.0 | b-b 5.0 | 35.0   38.0 | c-c 9.0 | 36.0   44.0 | d-d 15.0 | 44.0   60.0 | e-e 18.0  | 60.0   24.0 | <table border="1"> <tr><td>m</td><td>t</td></tr> <tr><td>a-a 2.0</td><td>32.0   33.0</td></tr> <tr><td>b-b 5.0</td><td>35.0   38.0</td></tr> <tr><td>c-c 9.0</td><td>36.0   44.0</td></tr> <tr><td>d-d 15.0</td><td>44.0   56.0</td></tr> <tr><td>e-e 18.0</td><td>56.0   24.0</td></tr> </table> |    | m | t   | a-a 2.0 | 32.0   33.0 | b-b 5.0   | 35.0   38.0 | c-c 9.0 | 36.0   44.0 | d-d 15.0 | 44.0   56.0 | e-e 18.0 | 56.0   24.0 |   |  |    |    |   |     |      |  |
| m   | t           |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| a-a 2.0   | 32.0   33.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| b-b 5.0   | 35.0   38.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| c-c 9.0   | 36.0   44.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| d-d 15.0  | 44.0   60.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| e-e 18.0  | 60.0   24.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| m   | t           |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| a-a 2.0   | 32.0   33.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| b-b 5.0   | 35.0   38.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| c-c 9.0   | 36.0   44.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| d-d 15.0  | 44.0   59.5 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| e-e 18.0  | 59.5   24.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| m   | t           |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| a-a 2.0   | 32.0   33.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| b-b 5.0   | 35.0   38.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| c-c 9.0   | 36.0   44.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| d-d 15.0  | 44.0   60.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| e-e 18.0  | 60.0   24.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| m   | t           |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| a-a 2.0   | 32.0   33.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| b-b 5.0   | 35.0   38.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| c-c 9.0   | 36.0   44.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| d-d 15.0  | 44.0   56.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| e-e 18.0  | 56.0   24.0 |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| <p>technical configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.</p>  |             |   |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| <p>Drop ends and drop sides:<br/>2 end walls<br/>16 side wall sections<br/>16 side stanchions<br/>(max. distance between stanchions: 2390 mm)</p>   |             |   |   | <p>Drop ends and drop sides:<br/>2 end walls<br/>16 side wall sections<br/>16 side stanchions<br/>(max. distance between stanchions: 2628 mm)</p> |             |  |             | <p>16 side stanchions (max. distance between stanchions: 2628 mm), drop ends and drop sides. If sides have been dropped, wagon can only be conveyed as an out-of-gauge consignment.</p> |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| <p>Hinged side-board end flaps that have been dropped but not removed will exceed the loading gauge</p>   |             | <p>Hinged side-board end flaps that have been dropped but not removed will exceed the loading gauge</p> |   |   |             |  |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |
| <p><sup>1)</sup>between side wall sections / between swivel stanchions</p>  |             | <p><sup>1)</sup>between side wall sections / between swivel stanchions</p>                              |   | <p><sup>1)</sup>between side wall sections / between swivel stanchions</p>  |             | <p><sup>1)</sup>between side wall sections / between swivel stanchions</p> |             |   |             |          |             |          |             |   |      |  |   |         |             |         |             |         |             |  |             |          |             |   |      |      |      |   |             |         |             |         |             |          |             |   |             |   |    |   |     |         |             |   |             |         |             |          |             |          |             |   |  |    |    |   |     |      |  |

# Bogie flat wagons



Rils 655

Rils 655: Cross-section of loading area when canopy fully opened



Rils wagons with a quick-fit sliding tarpaulin canopy are used for transporting goods that need to be kept dry. The tarpaulin canopy is simple to use:

- only one person required
- easy to move
- fitted with central locking system.

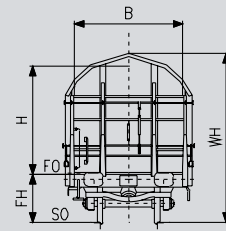
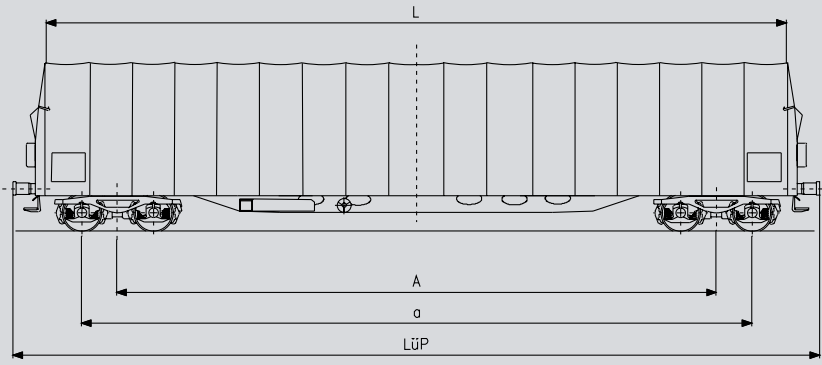
When the canopy is fully open, at least two thirds of the floor area is exposed.

The Rij wagon is especially suitable for moisture-sensitive packaged goods, such as tailored blanks, that need to be transported in a very secure manner. The wagon is equipped with eight pairs of adjustable hinged stanchions as well as adjustable and retractable guide rails. The load is mechanically secured in the longitudinal direction by means of a long-stroke shock absorber.

Roos wagons (see page 74) are ideally suited for transporting industrial wood pulp, log wood over two metres in length, and sawn timber. The wagon is also fitted with cargo ratchet straps for securing loads.

| UIC wagon classification code and DB-specific type number |      |                | Rils 652  |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
|---|------|----------------|---|---|---|---|-----|-----|------|------|------|------|------|-----|------|-----|------|------|-----|------|------|
| Loading length  | L    | mm             | 18410   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Loading width   | B    | mm             | 2670  |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Loading width between the stanchions                      |      | mm             | -   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Loading width between the edge bars                       |      | mm             | -   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Loading width between the guide rails                     |      | mm             | -   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Loading height  | H    | mm             | 2200  |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Height of stanchion                                       |      | mm             | -   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Floor area  |      | m <sup>2</sup> | 49.0  |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Useable loading capacity                                  |      | m <sup>3</sup> | ca. 95.0  |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Floor height  | FH   | mm             | 1238  |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Height of wagon   | WH   | mm             | 4280  |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Number of axles   |      |                | 4   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Distance between bogie pivots                             | A    | mm             | 14860   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Distance between outer axles                              | a    | mm             | 16660   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Length over buffers                                       | LüP  | mm             | 19900   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Average tare weight of wagon                              |      | kg             | 24480   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Load limits   |      | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>39.5</td> <td>47.5</td> <td>55.5</td> </tr> <tr> <td>120</td> <td colspan="3">0.00</td> </tr> </tbody> </table>   |   | A | B | C   | S   | 39.5 | 47.5 | 55.5 | 120  | 0.00 |     |      |     |      |      |     |      |      |
|   | A    | B              | C   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| S   | 39.5 | 47.5           | 55.5  |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| 120   | 0.00 |                |   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Concentrated loads  |      |                | <table border="1"> <thead> <tr> <th>m</th> <th colspan="2">t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>2.0</td> <td>32.0</td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>35.0</td> </tr> <tr> <td>c-c</td> <td>9.0</td> <td>36.0</td> </tr> <tr> <td>d-d</td> <td>15.0</td> <td>44.0</td> </tr> <tr> <td>e-e</td> <td>18.0</td> <td>55.5</td> </tr> </tbody> </table> | m | t |   | a-a | 2.0 | 32.0 | b-b  | 5.0  | 35.0 | c-c  | 9.0 | 36.0 | d-d | 15.0 | 44.0 | e-e | 18.0 | 55.5 |
| m   | t    |                |   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| a-a   | 2.0  | 32.0           |   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| b-b   | 5.0  | 35.0           |   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| c-c   | 9.0  | 36.0           |   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| d-d   | 15.0 | 44.0           |   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| e-e   | 18.0 | 55.5           |   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Note about information in load limit panels               |      |                | As a result of the different  |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Special features  |      |                | with quick-fit sliding tarpaulin canopy; guide rails along sides to prevent   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |
| Notes   |      |                |   |   |   |   |     |     |      |      |      |      |      |     |      |     |      |      |     |      |      |





| Rilns 654 | Rins 655  | Rijmms 660          |
|-----------|-----------|---------------------|
| 18510     | 18510     | 14200               |
| 2710      | 2710      | -                   |
| -         | 2540      | min. 1250/max. 2650 |
| -         | -         | 2750                |
| -         | -         | min. 1200/max. 2470 |
| 2300      | 2300      | -                   |
| -         | -         | 1200                |
| 49.2      | 50.2      | 39                  |
| ca. 107.0 | ca. 118.0 | 89.9                |
| 1238      | 1230      | 1230                |
| 4291      | 4279      | 4279                |
| 4         | 4         | 4                   |
| 14860     | 14860     | 10000               |
| 16660     | 16660     | 11800               |
| 20000     | 20000     | 16500               |
| 25300     | 24300     | 27460               |

|     | A    | B    | C    | D    | DB  | CM   |
|-----|------|------|------|------|-----|------|
| S   | 38.5 | 46.5 | 56.5 | 64.5 | 100 | 58.5 |
| 120 | 0.00 |      |      |      |     |      |

|     | A    | B    | C    | D    | DB  | CM   |
|-----|------|------|------|------|-----|------|
| S   | 39.5 | 47.5 | 57.5 | 65.5 | 100 | 59.5 |
| 120 | 0.00 |      |      |      |     |      |

|     | A    | B    | C    | D    | DB  | CM   |
|-----|------|------|------|------|-----|------|
| S   | 36.5 | 44.5 | 52.5 | 62.5 | 100 | 56.5 |
| 120 | 0.00 |      |      |      |     |      |

|     | m    |      | t    |  |
|-----|------|------|------|--|
| a-a | 2.0  | 32.0 | 33.0 |  |
| b-b | 5.0  | 39.0 | 44.0 |  |
| c-c | 9.0  | 42.0 | 52.0 |  |
| d-d | 15.0 | 52.0 | 64.5 |  |
| e-e | 18.0 | 64.5 | 28.0 |  |

|     | m    |      | t    |  |
|-----|------|------|------|--|
| a-a | 2.0  | 32.0 | 33.0 |  |
| b-b | 5.0  | 39.0 | 44.0 |  |
| c-c | 9.0  | 42.0 | 52.0 |  |
| d-d | 15.0 | 52.0 | 65.5 |  |
| e-e | 18.0 | 65.5 | 28.0 |  |

|     | m    |      | t    |  |
|-----|------|------|------|--|
| a-a | 2.0  | 32.0 | 33.0 |  |
| b-b | 5.0  | 39.0 | 44.0 |  |
| c-c | 8.0  | 42.0 | 52.0 |  |
| d-d | 11.0 | 62.5 | 62.5 |  |
| e-e | 14.0 | 62.5 | -    |  |

technical configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.

lashing points in the end walls, floor and along the wagon sides;  
load from shifting laterally. Fully open canopy exposes about two thirds of the loading area.

with quick-fit sliding tarpaulin canopy; each long side of the wagon is fitted with seven adjustable and retractable guide rails to prevent the load from shifting laterally; each long side of the wagon also has 14 lashing rings. The non-nailable wagon floor is made from multiply wooden panels and can withstand wheel loads of up to 30 kN.

To protect the goods being transported, the wagon is equipped with an impact-absorbing device.

Length of loading area exposed when canopy fully open: approx. 11 m

Eight hinged stanchions on each long side of the wagon, height above TOR: 1300 mm

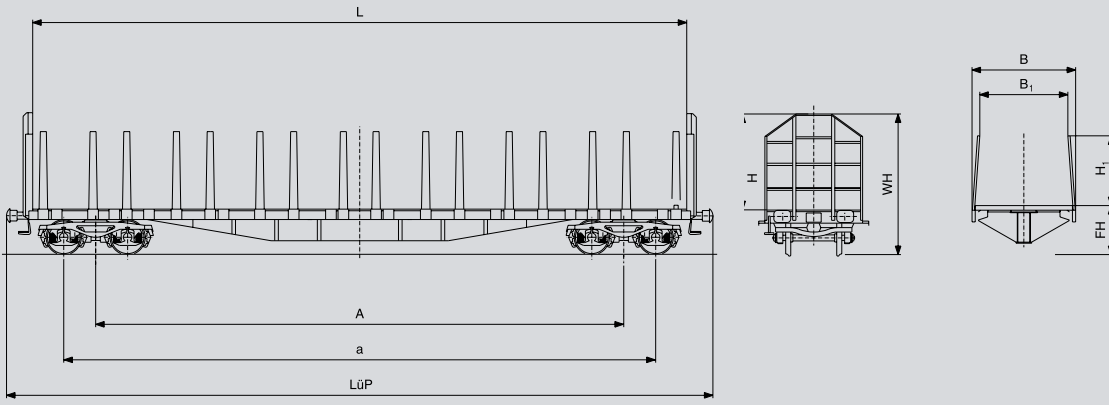
Eight hinged, adjustable and retractable stanchions on each long side of the wagon, height above TOR: 1200 mm

# Bogie flat wagons



Roos-t 642

| UIC wagon classification code and DB-specific type number |  |                | Roos 639  |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
|---|--|----------------|---|------|------|---|-----|-----|-------------|------|------|-------------|------|-----|-------------|------------------------------|------|-------------|-----|------|-------------|--|------|-----|---|----|---|----|----|---|----|------|-----|------|-----|------|--|
| Loading length  | L  | mm             | 18400   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Loading width   | B  | mm             | 2740  |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Loading height  | Height of end walls                                      | H              | mm  | 2580 |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
|   | Height of stanchion                                      | H <sub>1</sub> | mm  | 2005 |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Floor area  |  | m <sup>2</sup> | 50.0  |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Clearance between tips of unloaded stanchions             |  | mm             | 2500  |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Height of floor or bolsters above TOR                     | FH   | mm             | 1380  |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Height of bolsters  |  | mm             | -   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Height of wagons  | WH   | mm             | 3960  |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Number of axles   |  |                | 4   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Distance between bogie pivots                             | A  | mm             | 14860   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Distance between outer axles                              | a  | mm             | 16660   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Length over buffers                                       | LüP  | mm             | 19900   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Average tare weight of wagon                              |  | kg             | 27000   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Load limits   |  | t              | <table border="1"> <tr> <td></td> <td>A</td> <td>B</td> <td>C</td> </tr> <tr> <td>S</td> <td>37.0</td> <td>45.0</td> <td>53.0</td> </tr> <tr> <td>120</td> <td colspan="3">0.00</td> </tr> <tr> <td colspan="3">ÖBB CFL DSB NS<br/>SNCF CD GC</td> <td>D</td> </tr> <tr> <td colspan="3">100</td> <td>57.0</td> </tr> </table><br><table border="1"> <tr> <td>SBB</td> <td>D</td> <td>FS</td> <td>D</td> <td>DB</td> <td>CM</td> <td>D</td> </tr> <tr> <td>80</td> <td>57.0</td> <td>100</td> <td>55.0</td> <td>100</td> <td>57.0</td> <td></td> </tr> </table> |      | A    | B | C   | S   | 37.0        | 45.0 | 53.0 | 120         | 0.00 |     |             | ÖBB CFL DSB NS<br>SNCF CD GC |      |             | D   | 100  |             |  | 57.0 | SBB | D | FS | D | DB | CM | D | 80 | 57.0 | 100 | 55.0 | 100 | 57.0 |  |
|   | A  | B              | C   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| S   | 37.0   | 45.0           | 53.0  |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| 120   | 0.00   |                |   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| ÖBB CFL DSB NS<br>SNCF CD GC                              |  |                | D   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| 100   |  |                | 57.0  |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| SBB   | D  | FS             | D   | DB   | CM   | D |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| 80  | 57.0   | 100            | 55.0  | 100  | 57.0 |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Concentrated loads  |  |                | <table border="1"> <tr> <td></td> <td>m</td> <td>t</td> </tr> <tr> <td>a-a</td> <td>2.0</td> <td>32.0   33.0</td> </tr> <tr> <td>b-b</td> <td>5.0</td> <td>35.0   38.0</td> </tr> <tr> <td>c-c</td> <td>9.0</td> <td>36.0   44.0</td> </tr> <tr> <td>d-d</td> <td>15.0</td> <td>44.0   57.0</td> </tr> <tr> <td>e-e</td> <td>18.0</td> <td>57.0   24.0</td> </tr> </table>  |      | m    | t | a-a | 2.0 | 32.0   33.0 | b-b  | 5.0  | 35.0   38.0 | c-c  | 9.0 | 36.0   44.0 | d-d                          | 15.0 | 44.0   57.0 | e-e | 18.0 | 57.0   24.0 |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
|   | m  | t              |   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| a-a   | 2.0  | 32.0   33.0    |   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| b-b   | 5.0  | 35.0   38.0    |   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| c-c   | 9.0  | 36.0   44.0    |   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| d-d   | 15.0   | 44.0   57.0    |   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| e-e   | 18.0   | 57.0   24.0    |   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Note about information in load limit panels               | As a result of the different technical configurations of |                |   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |
| Special features  | Insertable stanchions                                    |                |   |      |      |   |     |     |             |      |      |             |      |     |             |                              |      |             |     |      |             |  |      |     |   |    |   |    |    |   |    |      |     |      |     |      |  |



| Roos-t 642  |      |             | Rnoos 644 |      |      |     | Roos-t 645 |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
|---|------|-------------|-----------|------|------|-----|------------|-------------|------|------|-------------|-----|------|-------------|------|------|-------------|----------------|------|-------------|--|--|------------|--|---|--|------|--|---|--|-----|-----|-------------|-----|-----|-------------|-----|-----|-------------|------|------|-------------|-----|------|-------------|--|--|--|--|--|--|--|--|---|---|---|--|---|------|------|------|----|-----|------|--|--|--|----|----|---|----|---|-----|------|--|-----|------|------------|--|---|--|--|-----|--|------|--|--|
| 18400   |      |             | 21614     |      |      |     | 18400      |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 2740  |      |             | 2650      |      |      |     | 2650       |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 2580  |      |             | 2730      |      |      |     | 2580       |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 1965  |      |             | 2000      |      |      |     | 1965       |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 50.0  |      |             | 57.0      |      |      |     | 48.7       |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 2500  |      |             | 2730      |      |      |     | 2410       |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 1380  |      |             | 1350      |      |      |     | 1380       |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| -   |      |             | -         |      |      |     | -          |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 3960  |      |             | 4080      |      |      |     | 3960       |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 4   |      |             | 4         |      |      |     | 4          |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 14860   |      |             | 16560     |      |      |     | 14860      |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 16660   |      |             | 18360     |      |      |     | 16660      |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 19900   |      |             | 22860     |      |      |     | 19900      |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 28000   |      |             | 25500     |      |      |     | 25000      |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td></td></tr> <tr><td>S</td><td>36.0</td><td>44.0</td><td>52.0</td><td>**</td></tr> <tr><td>120</td><td colspan="3">0.00</td><td></td></tr> <tr><td colspan="2">ÖBB CFL DSB NS</td><td colspan="2">D</td><td></td></tr> <tr><td colspan="2">SNCF CD GC</td><td colspan="2">100</td><td>56.0</td></tr> </table> |      |             |           | A    | B    | C   |            | S           | 36.0 | 44.0 | 52.0        | **  | 120  | 0.00        |      |      |             | ÖBB CFL DSB NS |      | D           |  |  | SNCF CD GC |  | 100   |  | 56.0 | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td><td></td></tr> <tr><td>S</td><td>38.0</td><td>46.0</td><td>54.0</td><td>64.5</td><td>***</td></tr> <tr><td>SS</td><td colspan="4">32.0</td><td></td></tr> </table> |   |  |     |     | A           | B   | C   | D           |     | S   | 38.0        | 46.0 | 54.0 | 64.5        | *** | SS   | 32.0        |  |  |  |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td></td></tr> <tr><td>S</td><td>39.0</td><td>47.0</td><td>55.0</td><td>**</td></tr> <tr><td>120</td><td colspan="3">0.00</td><td></td></tr> <tr><td>DB</td><td>CM</td><td>D</td><td>GC</td><td>D</td></tr> <tr><td>100</td><td colspan="2">59.0</td><td>100</td><td>58.0</td></tr> <tr><td colspan="2">CD ÖBB CFL</td><td colspan="3">D</td></tr> <tr><td colspan="2">100</td><td colspan="3">59.0</td></tr> </table> |  |  |  | A | B | C |  | S | 39.0 | 47.0 | 55.0 | ** | 120 | 0.00 |  |  |  | DB | CM | D | GC | D | 100 | 59.0 |  | 100 | 58.0 | CD ÖBB CFL |  | D |  |  | 100 |  | 59.0 |  |  |
|   | A    | B           | C         |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| S   | 36.0 | 44.0        | 52.0      | **   |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 120   | 0.00 |             |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| ÖBB CFL DSB NS  |      | D           |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| SNCF CD GC  |      | 100         |           | 56.0 |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
|   | A    | B           | C         | D    |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| S   | 38.0 | 46.0        | 54.0      | 64.5 | ***  |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| SS  | 32.0 |             |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
|   | A    | B           | C         |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| S   | 39.0 | 47.0        | 55.0      | **   |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 120   | 0.00 |             |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| DB  | CM   | D           | GC        | D    |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 100   | 59.0 |             | 100       | 58.0 |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| CD ÖBB CFL  |      | D           |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 100   |      | 59.0        |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| <table border="1"> <tr><td>SBB</td><td>D</td><td>FS</td><td>D</td><td>DB</td><td>CM</td><td>D</td></tr> <tr><td>80</td><td>56.0</td><td>100</td><td>54.0</td><td>100</td><td colspan="2">56.0</td></tr> </table>  |      |             | SBB       | D    | FS   | D   | DB         | CM          | D    | 80   | 56.0        | 100 | 54.0 | 100         | 56.0 |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| SBB   | D    | FS          | D         | DB   | CM   | D   |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| 80  | 56.0 | 100         | 54.0      | 100  | 56.0 |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| <table border="1"> <tr><td>m</td><td colspan="2">t</td></tr> <tr><td>a-a</td><td>2.0</td><td>32.0   33.0</td></tr> <tr><td>b-b</td><td>5.0</td><td>35.0   38.0</td></tr> <tr><td>c-c</td><td>9.0</td><td>36.0   44.0</td></tr> <tr><td>d-d</td><td>15.0</td><td>44.0   56.0</td></tr> <tr><td>e-e</td><td>18.0</td><td>56.0   24.0</td></tr> </table>                         |      |             | m         | t    |      | a-a | 2.0        | 32.0   33.0 | b-b  | 5.0  | 35.0   38.0 | c-c | 9.0  | 36.0   44.0 | d-d  | 15.0 | 44.0   56.0 | e-e            | 18.0 | 56.0   24.0 |  |  |            |  | <table border="1"> <tr><td>m</td><td colspan="2">t</td></tr> <tr><td>a-a</td><td>2.0</td><td>32.0   33.0</td></tr> <tr><td>b-b</td><td>5.0</td><td>35.0   38.0</td></tr> <tr><td>c-c</td><td>9.0</td><td>36.0   44.0</td></tr> <tr><td>d-d</td><td>15.0</td><td>44.0   59.0</td></tr> <tr><td>e-e</td><td>18.0</td><td>59.0   24.0</td></tr> </table> |  |      | m  | t |  | a-a | 2.0 | 32.0   33.0 | b-b | 5.0 | 35.0   38.0 | c-c | 9.0 | 36.0   44.0 | d-d  | 15.0 | 44.0   59.0 | e-e | 18.0 | 59.0   24.0 |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| m   | t    |             |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| a-a   | 2.0  | 32.0   33.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| b-b   | 5.0  | 35.0   38.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| c-c   | 9.0  | 36.0   44.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| d-d   | 15.0 | 44.0   56.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| e-e   | 18.0 | 56.0   24.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| m   | t    |             |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| a-a   | 2.0  | 32.0   33.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| b-b   | 5.0  | 35.0   38.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| c-c   | 9.0  | 36.0   44.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| d-d   | 15.0 | 44.0   59.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |
| e-e   | 18.0 | 59.0   24.0 |           |      |      |     |            |             |      |      |             |     |      |             |      |      |             |                |      |             |  |  |            |  |   |  |      |  |   |  |     |     |             |     |     |             |     |     |             |      |      |             |     |      |             |  |  |  |  |  |  |  |  |   |   |   |  |   |      |      |      |    |     |      |  |  |  |    |    |   |    |   |     |      |  |     |      |            |  |   |  |  |     |  |      |  |  |

these wagons, the markings indicating load limits and permissible concentrated loads may be marginally higher or lower than those depicted here.

Insertable stanchions

24 side-wall swivel stanchions,  
Max. distance between stanchions: 2620 mm  
9 ratchet straps between the stanchions

Insertable stanchions

# Bogie flat wagons

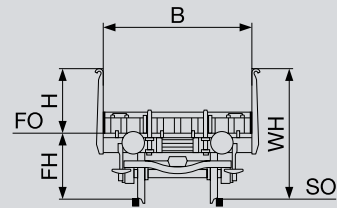
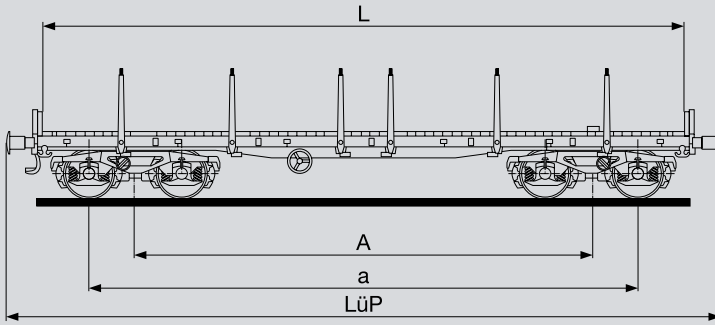
## Rbns 641



| UIC wagon classification code and DB-specific type number |  |                |    | Rbns 641 |
|---|--|----------------|----|----------|
| Loading length  | L  | mm             |    | 25008    |
| Loading width   | B  | mm             |    | 2590     |
| Loading height  | Height of end walls  | H              | mm | -        |
|   | Height of stanchion  | H <sub>1</sub> | mm | 2000     |
| Floor area  |  | m <sup>2</sup> |    | 65.0     |
| Clearance between tips of unloaded stanchions             |  | mm             |    | 2386     |
| Height of floor or bolsters above TOR                     | FH   | mm             |    | 1350     |
| Height of bolsters  |  | mm             |    | 100      |
| Height of wagon   | WH   | mm             |    | 3350     |
| Number of axles   |  | 4              |    | 4        |
| Distance between bogie pivots                             | A  | mm             |    | 20050    |
| Distance between outer axles                              | a  | mm             |    | 21850    |
| Length over buffers                                       | LüP  | mm             |    | 26350    |
| Average tare weight of wagon                              |  | kg             |    | 27000    |
| Load limits   |  | t              |    |          |
|   |  |                |    |          |
|   |  |                |    |          |
|   |  |                |    |          |
|   |  |                |    |          |
| Concentrated loads  |  |                |    |          |
|   |  |                |    |          |
|   |  |                |    |          |
|   |  |                |    |          |
|   |  |                |    |          |
| Note about information in load limit panels               | As a result of the different technical configurations of these wagons, the markings  |                |    |          |
| Special features  | 24 side stanchions; 2 retractable stanchions on each end of wagon; drop ends; fixed bolsters; max. distance between stanchions: 2500 mm; 10 ratchet straps |                |    |          |

|     | A    | B    | C    | D    | ** |
|-----|------|------|------|------|----|
| S   | 37.0 | 45.0 | 55.0 | 63.0 |    |
| 120 | 0.00 |      |      |      |    |
| DB  | CM   |      |      |      |    |
| 100 | 57.0 |      |      |      |    |
| PKP | C    |      |      |      |    |
| 100 | 52.5 |      |      |      |    |

|     | m    |      | t    |  |
|-----|------|------|------|--|
| a-a | 11.0 | 44.0 | 55.0 |  |
| b-b | 13.0 | 47.0 | 59.0 |  |
| c-c | 18.0 | 56.0 | 60.0 |  |
| d-d | 19.5 | 61.0 | 63.0 |  |
| e-e | 20.5 | 61.0 | 63.0 |  |
| f-f | 23.0 | 63.0 | 31.0 |  |



| Rns-z 643   |       |      |      |      | Rbns 646 |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
|---|-------|------|------|------|----------|---|---|---|-----|-----|------|------|------|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|---|--|---|--|--|--|---|---|---|-----|------|------|------|-----|------|------|------|------|-------|------|------|-----|-------|------|------|-----|------|------|------|-----|------|------|------|--|--|--|--|
| 21058   |       |      |      |      | 25008    |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 2710  |       |      |      |      | 2520     |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| -   |       |      |      |      | -        |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 2000  |       |      |      |      | 1980     |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 57.0  |       |      |      |      | 63.0     |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 2530  |       |      |      |      | -        |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 1350  |       |      |      |      | 1380     |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 100   |       |      |      |      | 100      |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 3350  |       |      |      |      | 3360     |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 4   |       |      |      |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 16860   |       |      |      |      | 20050    |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 18660   |       |      |      |      | 21850    |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 22400   |       |      |      |      | 26350    |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 24000   |       |      |      |      | 29800    |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
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|   | A     | B    | C    | D    | **       |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| S   | 40.0  | 48.0 | 58.0 | 66.0 | **       |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 120   | 0.00  |      |      |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| DB  | CM    |      |      |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 100   | 60.0  |      |      |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
|   | A     | B    | C    | D    | **       |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| S   | 34.2  | 42.2 | 50.2 | 60.2 | **       |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 120   | 0.00  |      |      |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| DB  | CM    |      |      |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| 100   | 54.2  |      |      |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
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|   | m     | t    | t    |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| a-a   | 5.0   | 38.0 | 38.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| b-b   | 9.0   | 40.0 | 50.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| c-c   | 14.0  | 48.0 | 60.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| d-d   | 16.4  | 57.0 | 66.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| e-e   | 17.4  | 57.0 | 66.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| f-f   | 19.0  | 66.0 | 34.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
|   | m     | t    | t    |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| a-a   | 2.25  | 44.0 | 55.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| b-b   | 6.75  | 47.0 | 59.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| c-c   | 11.25 | 56.0 | 60.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| d-d   | 15.65 | 60.2 | 60.2 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| e-e   | 17.4  | 60.2 | 60.2 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |
| f-f   | 19.0  | 60.2 | 31.0 |      |          |   |   |   |     |     |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |   |  |   |  |  |  |   |   |   |     |      |      |      |     |      |      |      |      |       |      |      |     |       |      |      |     |      |      |      |     |      |      |      |  |  |  |  |

indicating load limits and permissible concentrated loads may be marginally higher or lower than those depicted here.

18 side stanchions; 2 retractable stanchions on each end of wagon; drop ends; fixed bolsters; max. distance between stanchions: 2500 mm; 6 ratchet straps

10 pairs of stanchions with ratchet straps for tying down the load; drop ends; fixed bolsters; max. distance between stanchions: 2250 mm

# Bogie flat wagons



Rs-y 667

Wagons of type Rs-y 667 (open) and RiIs-y 649 (covered) are equipped with saddle frames specially designed to accommodate wire coils with a maximum width of 2.00 m and a maximum coil diameter of 1.25 m, thus making optimum use of the wagon load limits.

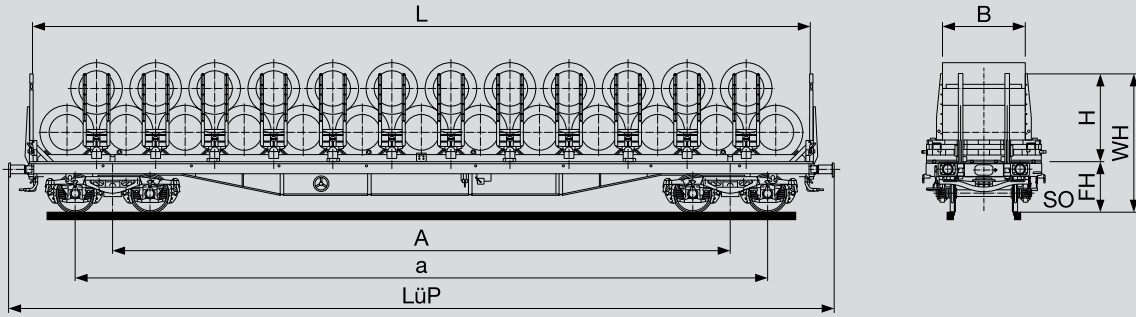
Each loading frame has 13 wood-lined troughs that accommodate the lowest tier of wire coils. A further 12 coils can then be loaded in the cantlines of the first tier of coils. The load is secured crosswise by 12 pairs of double stanchions that can be positioned by hand.

## UIC wagon classification code and DB-specific type

|  |     |      |
|--|-----|------|
| Loading width between the stanchions   | B   | mm   |
|  |     | max. |
|  |     | min. |
| Diameter of wire coils                 |     | mm   |
|  |     | max. |
|  |     | min. |
| Height of stanchions above floor level | H   | mm   |
| Floor height                           | FH  | mm   |
| Height of wagon                        | WH  | mm   |
| Number of axles                        |     |      |
| Distance between bogie pivots          | A   | mm   |
| Distance between outer axles           | a   | mm   |
| Length over buffers                    | LüP | mm   |
| Average tare weight of wagon           |     | kg   |
| Load limits                            |     | t    |

Note about information in load limit panels

Special features



| Wagon number | Rs-y 667 | Rils-y 649 |
|--------------|----------|------------|
|              | 2000     | 2000       |
|              | 1600     | 1600       |
|              | 1250     | 1250       |
|              | 1100     | 1100       |
|              | 2130     | 2130       |
|              | 1238     | 1238       |
|              | 3368     | 4291       |
|              | 4        | 4          |
|              | 14860    | 14860      |
|              | 16660    | 16660      |
|              | 19900    | 20000      |
|              | 26700    | 30000      |

|   | A    | B    | C    |
|---|------|------|------|
| S | 37.0 | 45.0 | 53.0 |

|     | A    | B    | C    | D    |
|-----|------|------|------|------|
| S   | 33.5 | 41.5 | 51.5 | 59.5 |
| 100 | 0.00 |      |      |      |

| DB  | CM   |
|-----|------|
| 100 | 53.5 |

As a result of the different technical configurations of these wagons, the markings indicating load limits and permissible concentrated loads may be marginally higher or lower than those depicted here.

The wagons are equipped with a loading frame containing 13 troughs for transporting wire coils. The wire coils can be loaded in two tiers.

As a result of the different technical configurations of these wagons, the markings indicating load limits and permissible concentrated loads may be marginally higher or lower than those depicted here.

The wagons are equipped with

- a quick-fit sliding tarpaulin canopy (fully open canopy exposes about two thirds of loading area)
- a loading frame containing 13 troughs for transporting wire coils. The wire coils can be loaded in two tiers.

# Six-axle bogie flat wagons

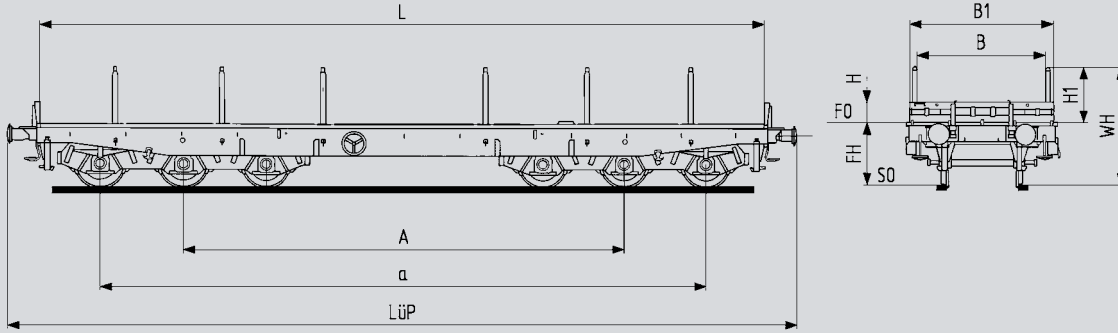
## Samms 489



Six-axle bogie flat wagons are the vehicles of choice when transporting unusually heavy loads. Depending on wagon type and load dimensions, consignments with a gross weight of up to 105.5 tonnes can be transported. These wagons are equipped with stanchions, side boards, end boards and hinged bolsters depending on the nature of the goods to be conveyed. Some of these wagons have removable loading frames or fixed troughs designed to accept heavy coils that do not need to be kept dry during transport.

| UIC wagon classification code and DB-specific type number |                            |                | Samms 489   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
|---|----------------------------|----------------|---|------|------|------|-----|------|------|-----|------|------|------|------|------|-----|------|------|-----|-----|-------|-----|------|-------|
| Loading length  | L                          | mm             | 15000   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Loading width   | between stanchions         | B              | 2630  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
|   | total (without stanchions) | B <sub>1</sub> | 3090 <sup>1)</sup>  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Height of side and end boards                             | H                          | mm             | 450   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Height of stanchion                                       | H <sub>1</sub>             | mm             | 1200  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Floor area  |                            | m <sup>2</sup> | 46.0  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Floor height  | FH                         | mm             | 1300  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Height of bolsters  |                            | mm             | 70  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Height of wagon   | WH                         | mm             | 2500  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Number of axles   |                            |                | 6   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Distance between bogie pivots                             | A                          | mm             | 9150  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Distance between puter axles                              | a                          | mm             | 12550   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Length over buffers                                       | LüP                        | mm             | 16400   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Average tare weight of wagon                              |                            | kg             | 29400   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Load limits   |                            | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>45.5</td> <td>52.5</td> <td>57.5</td> <td>66.5</td> <td>75.5</td> </tr> <tr> <td>120</td> <td colspan="5">0.00</td> </tr> </tbody> </table>   |      | A    | B1   | B2  | C    | D    | S   | 45.5 | 52.5 | 57.5 | 66.5 | 75.5 | 120 | 0.00 |      |     |     |       |     |      |       |
|   |                            | A              | B1  | B2   | C    | D    |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
|   | S                          | 45.5           | 52.5  | 57.5 | 66.5 | 75.5 |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| 120   | 0.00                       |                |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
|   |                            |                | <table border="1"> <thead> <tr> <th>DB</th> <th>CE</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td colspan="2">90.5</td> </tr> </tbody> </table>   | DB   | CE   | D    | 100 | 90.5 |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| DB  | CE                         | D              |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| 100   | 90.5                       |                |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
|   |                            |                | <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <span style="font-size: 1.2em;">105.5</span> </div>  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Maximum carrying capacity                                 |                            | t              | <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> <span style="font-size: 1.2em;">105.5</span> </div>  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Note about information in load limit panels               |                            |                |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Concentrated loads  |                            |                | <table border="1"> <thead> <tr> <th></th> <th>m</th> <th>t</th> </tr> </thead> <tbody> <tr> <td>a-a</td> <td>2.0</td> <td>63.0</td> </tr> <tr> <td>b-b</td> <td>3.0</td> <td>66.0</td> </tr> <tr> <td>c-c</td> <td>5.0</td> <td>77.0</td> </tr> <tr> <td>d-d</td> <td>7.0</td> <td>92.0</td> </tr> <tr> <td>e-e</td> <td>9.0</td> <td>105.5</td> </tr> <tr> <td>f-f</td> <td>14.0</td> <td>105.5</td> </tr> </tbody> </table> |      | m    | t    | a-a | 2.0  | 63.0 | b-b | 3.0  | 66.0 | c-c  | 5.0  | 77.0 | d-d | 7.0  | 92.0 | e-e | 9.0 | 105.5 | f-f | 14.0 | 105.5 |
|   | m                          | t              |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| a-a   | 2.0                        | 63.0           |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| b-b   | 3.0                        | 66.0           |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| c-c   | 5.0                        | 77.0           |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| d-d   | 7.0                        | 92.0           |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| e-e   | 9.0                        | 105.5          |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| f-f   | 14.0                       | 105.5          |   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Special features  |                            |                | Max. distance between stanchions: 3300 mm, 12 insertable side stanchions, 2 retractable stanchions on each drop end, drop ends, hinged bolsters   |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |
| Notes   |                            |                | <sup>1)</sup> 3090 mm over a length of 12450 mm; 2950 mm at the wagon ends  |      |      |      |     |      |      |     |      |      |      |      |      |     |      |      |     |     |       |     |      |       |





without drop sides

| Sammnps 694        | Sa(l)mmnps 706     | Samms 709          | Samms 710          |
|--------------------|--------------------|--------------------|--------------------|
| 11960              | 11804              | 15000              | 15000              |
| 2640               | 2580               | 2585               | 2560               |
| 3090 <sup>1)</sup> | 3050 <sup>1)</sup> | 3090 <sup>1)</sup> | 3110 <sup>1)</sup> |
| -                  | 450                | -                  | -                  |
| 1210               | 1250               | 1200               | 1200               |
| 36.0               | 36.0               | 46.0               | 45.7               |
| 1270               | 1300               | 1300               | 1300               |
| -                  | -                  | 70                 | 70                 |
| 2470               | 2550 <sup>2)</sup> | 2500               | 2500               |
| 6                  | 6                  | 6                  | 6                  |
| 6200               | 6200               | 9150               | 8400               |
| 9600               | 9600               | 12550              | 11800              |
| 13200              | 13200              | 16400              | 16400              |
| 28000              | 28000              | 30800              | 31000              |

| Sammnps 694 |       |      |      |      |      |      |      | Sa(l)mmnps 706 |     |      |      |      |       |      |      | Samms 709 |   |      |      |      | Samms 710 |      |    |     |      |      |      |      |      |    |
|-------------|-------|------|------|------|------|------|------|----------------|-----|------|------|------|-------|------|------|-----------|---|------|------|------|-----------|------|----|-----|------|------|------|------|------|----|
| A           | B1    | B2   | C2   | C3   | C4   | D2   | D3   | D4             | A   | B1   | B2   | C2   | C3/C4 | D2   | D3   | D4        | A | B1   | B2   | C    | D         | A    | B1 | B2  | C    | D    |      |      |      |    |
| S           | 38.0  | 56.0 | 67.0 | 68.0 | 56.0 | 67.0 | 77.0 | ***            | S   | 38.0 | 56.0 | 65.0 | 56.0  | 67.0 | 77.0 | **        | S | 44.0 | 51.0 | 56.0 | 65.0      | 74.0 | ** | S   | 44.0 | 53.0 | 56.0 | 65.0 | 74.0 | ** |
| 120         | 0.00  |      |      |      |      |      |      |                | 120 | 0.00 |      |      |       |      |      |           |   | 120  | 0.00 |      |           |      |    | 120 | 0.00 |      |      |      |      |    |
| DB          | CE    | D    |      |      |      |      |      |                | DB  | CE   |      |      |       |      |      |           |   | DB   | CE   | CM   | D         |      |    |     | DB   | CE   | CM   | D    |      |    |
| 100         | 107.0 |      |      |      |      |      |      |                | 100 | 77.5 |      |      |       |      |      |           |   | 100  | 89.0 |      |           |      |    | 100 | 89.0 |      |      |      |      |    |

|       |       |                                   |      |
|-------|-------|-----------------------------------|------|
| 107.0 | 107.0 | 101.0<br>for an axle load of 22 t | 89.0 |
|-------|-------|-----------------------------------|------|

As a result of the different technical configurations of these wagons, the markings indicating load limits and permissible concentrated loads may be marginally higher or lower than those depicted here.

| m       | t             |
|---------|---------------|
| a-a 2.0 | 72.0   101.0  |
| b-b 3.0 | 90.0   107.0  |
| c-c 5.0 | 107.0   107.0 |
| d-d 8.5 |               |

| m       | t             |
|---------|---------------|
| a-a 2.0 | 72.0   101.0  |
| b-b 3.0 | 90.0   107.0  |
| c-c 5.0 | 107.0   107.0 |
| d-d 8.5 | 107.0   78.0  |

| m       | t     |
|---------|-------|
| a-a 3.0 | 63.0  |
| b-b 5.0 | 74.0  |
| c-c 8.0 | 89.0  |
| d-d 9.0 | 101.0 |

| m       | t    |
|---------|------|
| a-a 3.0 | 57.0 |
| b-b 5.0 | 67.0 |
| c-c 8.0 | 89.0 |

Max. distance between stanchions: 3300 mm, 8 insertable side stanchions, no bolsters, no drop ends

Steel floor

Max. distance between stanchions: 3300 mm, 12 side stanchions, 2 retractable stanchions at each drop end, drop ends, hinged bolsters

Max. distance between stanchions: 3300 mm, 12 insertable side stanchions, 2 retractable stanchions on each drop end, drop ends, hinged bolsters

<sup>1)</sup> 3090 mm over a length of 9220 mm; 2950 mm at the wagon ends. These wagons are scheduled to be available from autumn 2009.

<sup>1)</sup> 3050 over a length of 8660 mm  
<sup>2)</sup> in wagons without stanchions: 1300 mm

<sup>1)</sup> 3090 mm over a length of 12450 mm; 2950 mm at the wagon ends

<sup>1)</sup> 3110 mm over a length of 11300 mm; 2950 mm at the wagon ends

# Trestle wagons for transporting metal plates

Slps-u 725

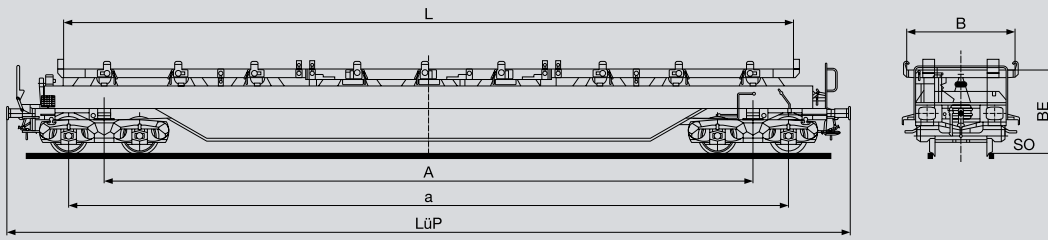


Freight wagons of type Slps-u 725 are built for transporting large pieces of sheet or metal plates.

The angle of the loading rack can be controlled hydraulically. The rack can be positioned horizontally to facilitate loading and unloading operations.

The loading rack is then rotated to an angled position so as to make optimum use of the relevant loading gauge. The final width adjustments for the loaded freight are carried out manually in steps of 20 mm using adjustable push bolts.

Because the loading rack can be angled, metal plates with dimensions up to 3970 mm can be transported without exceeding the loading gauge and therefore without having to make the special arrangements required when conveying out-of-gauge consignments.





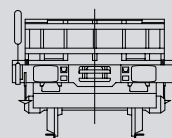
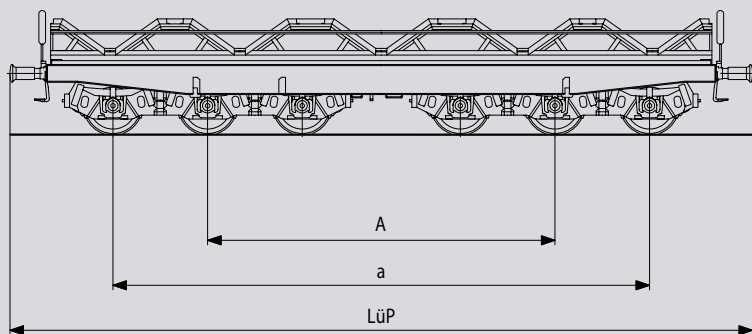
| UIC wagon classification code and DB-specific type number |   |      | Slps-u 725   |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
|---|---|------|--|------|--|--|--|---|---|---|---|---|------|------|------|------|----|----|-----|------|
| Loading length  | L   | mm   | 19000  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| Loading width   | B   | mm   | 2850 bis 5500  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| Height of loading level above TOR                         | BE  | mm   | 2225   |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| Number of axles   |   |      | 4  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| Distance between bogie pivots                             | A   | mm   | 17000  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| Distance between outer axles                              | a   | mm   | 18800  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| Length over buffers                                       | LüP   | mm   | 22040  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| Average tare weight of wagon                              |   | kg   | 32500  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| Load limits   |   | t    | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <th>S</th> <td>31.5</td> <td>39.5</td> <td>47.5</td> <td>57.5</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>DB</th> <th>CM</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>51.5</td> </tr> </tbody> </table> |      |  |  |  | A | B | C | D | S | 31.5 | 39.5 | 47.5 | 57.5 | DB | CM | 100 | 51.5 |
|   | A   | B    | C  | D    |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| S   | 31.5  | 39.5 | 47.5   | 57.5 |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| DB  | CM  |      |  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| 100   | 51.5  |      |  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |
| Special features  | The wagons must only be operated by appropriately trained personnel. Operators must comply with the information in the operating instructions and the loading tables. Power is supplied via a separate cable that is not a wagon accessory. |      |  |      |  |  |  |   |   |   |   |   |      |      |      |      |    |    |     |      |

# Bogie coil wagons

## Sahlmmps-t 713



| UIC wagon classification code and DB-specific type number |  | with loading troughs for coils<br>Sahlmmps 706  | Sahlmmps-t 710  |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
|---|--|---|---|------|------|------|------|------|-----------|-----|-----|-----|-----|------|-----------|------|------|------|------|------|---------------|------|------|------|------|------|--|--------|---|---|---|---|----|----|-----|-----------|--|-----|-----|-----|-----|-----|-----|-----------|------|------|------|------|------|------|------|---------------|------|------|------|------|------|------|------|------|--|
| Loading width in troughs                                  | mm   | 2500  | 2450  |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Loading height  | H mm   | See loading plan  | See loading plan  |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Floor area  | m <sup>2</sup>   | See loading plan  | See loading plan  |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Number of axles   |  | 6   | 6   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Distance between bogie pivots                             | A mm   | 6200  | 8400  |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Distance between outer axles                              | a mm   | 9600  | 11800   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Length over buffers                                       | LüP mm   | 13200   | 16400   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Average tare weight of wagon                              | kg   | 33800   | 35500   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Load limits   | t  | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C2</th> <th>C3</th> <th>C4</th> <th>D2</th> <th>D3</th> <th>D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>32.0</td> <td></td> <td>50.0</td> <td>59.0</td> <td>59.0</td> <td>50.0</td> <td>61.0</td> <td>71.0</td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="9">0.00</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>DB</th> <th>CE</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>71.5</td> </tr> </tbody> </table> |   | A    | B1   | B2   | C2   | C3   | C4        | D2  | D3  | D4  | S   | 32.0 |           | 50.0 | 59.0 | 59.0 | 50.0 | 61.0 | 71.0          | **   | 120  | 0.00 |      |      |  |        |   |   |   |   | DB | CE | 100 | 71.5      | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>39.5</td> <td>48.5</td> <td>51.5</td> <td>60.5</td> <td>69.5</td> </tr> <tr> <td>120</td> <td colspan="5">0.00</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>DB</th> <th>CE</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>84.5</td> <td></td> </tr> </tbody> </table> |     | A   | B1  | B2  | C   | D   | S         | 39.5 | 48.5 | 51.5 | 60.5 | 69.5 | 120  | 0.00 |               |      |      |      | DB   | CE   | D    | 100  | 84.5 |  |
|   | A  | B1  | B2  | C2   | C3   | C4   | D2   | D3   | D4        |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| S   | 32.0   |   | 50.0  | 59.0 | 59.0 | 50.0 | 61.0 | 71.0 | **        |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| 120   | 0.00   |   |   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| DB  | CE   |   |   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| 100   | 71.5   |   |   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
|   | A  | B1  | B2  | C    | D    |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| S   | 39.5   | 48.5  | 51.5  | 60.5 | 69.5 |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| 120   | 0.00   |   |   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| DB  | CE   | D   |   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| 100   | 84.5   |   |   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Maximum carrying capacity                                 | t  |    |  |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Note about information in load limit panels               | As a result of the different technical configurations of these wagons, the load limit markings   |   |   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Loading plan  | <table border="1"> <thead> <tr> <th>Trough</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Ø min. mm</td> <td>700</td> <td>700</td> <td>700</td> <td>700</td> <td>700</td> </tr> <tr> <td>Ø max. mm</td> <td>2000</td> <td>2200</td> <td>2200</td> <td>2200</td> <td>2000</td> </tr> <tr> <td>Max. weight t</td> <td>25.0</td> <td>45.0</td> <td>45.0</td> <td>45.0</td> <td>25.0</td> </tr> </tbody> </table> |   | Trough  | 1    | 2    | 3    | 4    | 5    | Ø min. mm | 700 | 700 | 700 | 700 | 700  | Ø max. mm | 2000 | 2200 | 2200 | 2200 | 2000 | Max. weight t | 25.0 | 45.0 | 45.0 | 45.0 | 25.0 | <table border="1"> <thead> <tr> <th>Trough</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> </tr> </thead> <tbody> <tr> <td>Ø min. mm</td> <td>900</td> <td>900</td> <td>900</td> <td>900</td> <td>900</td> <td>900</td> <td>900</td> </tr> <tr> <td>Ø max. mm</td> <td>2000</td> <td>2200</td> <td>2200</td> <td>2200</td> <td>2200</td> <td>2200</td> <td>2000</td> </tr> <tr> <td>Max. weight t</td> <td>22.0</td> <td>42.5</td> <td>32.5</td> <td>45.0</td> <td>32.5</td> <td>42.5</td> <td>22.0</td> </tr> </tbody> </table> | Trough | 1 | 2 | 3 | 4 | 5  | 6  | 7   | Ø min. mm | 900  | 900 | 900 | 900 | 900 | 900 | 900 | Ø max. mm | 2000 | 2200 | 2200 | 2200 | 2200 | 2200 | 2000 | Max. weight t | 22.0 | 42.5 | 32.5 | 45.0 | 32.5 | 42.5 | 22.0 |      |  |
| Trough  | 1  | 2   | 3   | 4    | 5    |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Ø min. mm   | 700  | 700   | 700   | 700  | 700  |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Ø max. mm   | 2000   | 2200  | 2200  | 2200 | 2000 |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Max. weight t   | 25.0   | 45.0  | 45.0  | 45.0 | 25.0 |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Trough  | 1  | 2   | 3   | 4    | 5    | 6    | 7    |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Ø min. mm   | 900  | 900   | 900   | 900  | 900  | 900  | 900  |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Ø max. mm   | 2000   | 2200  | 2200  | 2200 | 2200 | 2200 | 2000 |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Max. weight t   | 22.0   | 42.5  | 32.5  | 45.0 | 32.5 | 42.5 | 22.0 |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |
| Notes   | The weights given in the loading plans do not refer to the total load carrying capacity of the wagon, The loads must be  |   |   |      |      |      |      |      |           |     |     |     |     |      |           |      |      |      |      |      |               |      |      |      |      |      |  |        |   |   |   |   |    |    |     |           |  |     |     |     |     |     |     |           |      |      |      |      |      |      |      |               |      |      |      |      |      |      |      |      |  |



| Sahmms 711   |       | with loading troughs for coils<br>Sahlmmps-t 713 |      | Sahlmmps-t 721   |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
|--|-------|--|------|------------------|------|------|------|------|------|------|------|------|-----|------|--|--|--|--|----|----|---|-----|------|--|--|---|--|------|----|----|-------|----|----|----|---|------|------|------|------|------|------|------|-----|------|--|--|--|--|--|--|----|----|---|-----|-------|--|--|---|--|---|----|----|----|----|----|----|----|----|---|------|--|------|------|------|------|------|------|--|-----|------|--|--|--|--|--|--|--|--|----|----|---|-----|-------|--|--|
| 2455   |       | 2450   |      | 2450             |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| See loading plan   |       | See loading plan                                 |      | See loading plan |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| See loading plan   |       | See loading plan                                 |      | See loading plan |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 6  |       | 6  |      | 6                |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 9400   |       | 6200   |      | 6200             |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 12800  |       | 9600   |      | 9600             |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 16400  |       | 13200  |      | 13200            |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 31350  |       | 33800  |      | 34000            |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>43.5</td> <td>50.5</td> <td>55.5</td> <td>64.5</td> <td>73.5</td> </tr> <tr> <td>120</td> <td colspan="5">0.00</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>DB</th> <th>CE</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>88.5</td> <td></td> </tr> </tbody> </table> |       | A  | B1   | B2               | C    | D    | S    | 43.5 | 50.5 | 55.5 | 64.5 | 73.5 | 120 | 0.00 |  |  |  |  | DB | CE | D | 100 | 88.5 |  |  | <table border="1"> <thead> <tr> <th></th> <th>A/B1</th> <th>B2</th> <th>C2</th> <th>C3/C4</th> <th>D2</th> <th>D3</th> <th>D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>32.0</td> <td>50.0</td> <td>50.0</td> <td>59.0</td> <td>50.0</td> <td>61.0</td> <td>71.0</td> </tr> <tr> <td>120</td> <td colspan="7">0.00</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>DB</th> <th>CE</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>101.0</td> <td></td> </tr> </tbody> </table> |  | A/B1 | B2 | C2 | C3/C4 | D2 | D3 | D4 | S | 32.0 | 50.0 | 50.0 | 59.0 | 50.0 | 61.0 | 71.0 | 120 | 0.00 |  |  |  |  |  |  | DB | CE | D | 100 | 101.0 |  |  | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C2</th> <th>C3</th> <th>C4</th> <th>D2</th> <th>D3</th> <th>D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>32.0</td> <td></td> <td>50.0</td> <td>61.0</td> <td>62.0</td> <td>50.0</td> <td>61.0</td> <td>71.0</td> <td></td> </tr> <tr> <td>120</td> <td colspan="9">0.00</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>DB</th> <th>CE</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>101.0</td> <td></td> </tr> </tbody> </table> |  | A | B1 | B2 | C2 | C3 | C4 | D2 | D3 | D4 | S | 32.0 |  | 50.0 | 61.0 | 62.0 | 50.0 | 61.0 | 71.0 |  | 120 | 0.00 |  |  |  |  |  |  |  |  | DB | CE | D | 100 | 101.0 |  |  |
|  | A     | B1   | B2   | C                | D    |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| S  | 43.5  | 50.5   | 55.5 | 64.5             | 73.5 |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 120  | 0.00  |  |      |                  |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| DB   | CE    | D  |      |                  |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 100  | 88.5  |  |      |                  |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
|  | A/B1  | B2   | C2   | C3/C4            | D2   | D3   | D4   |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| S  | 32.0  | 50.0   | 50.0 | 59.0             | 50.0 | 61.0 | 71.0 |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 120  | 0.00  |  |      |                  |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| DB   | CE    | D  |      |                  |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 100  | 101.0 |  |      |                  |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
|  | A     | B1   | B2   | C2               | C3   | C4   | D2   | D3   | D4   |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| S  | 32.0  |  | 50.0 | 61.0             | 62.0 | 50.0 | 61.0 | 71.0 |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 120  | 0.00  |  |      |                  |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| DB   | CE    | D  |      |                  |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 100  | 101.0 |  |      |                  |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |
| 104.0  |       | 101.0  |      | 101.0            |      |      |      |      |      |      |      |      |     |      |  |  |  |  |    |    |   |     |      |  |  |   |  |      |    |    |       |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |    |   |     |       |  |  |   |  |   |    |    |    |    |    |    |    |    |   |      |  |      |      |      |      |      |      |  |     |      |  |  |  |  |  |  |  |  |    |    |   |     |       |  |  |

may be marginally higher or lower than those depicted here.

| Trough        | 1    | 2    | 3    | 4    | 5    | 6    | 7    |
|---------------|------|------|------|------|------|------|------|
| Ø min. mm     | 1200 | 1200 | 1200 | 1200 | 1200 | 1200 | 1200 |
| Ø max. mm     | 2000 | 2500 | 1700 | 2500 | 1700 | 2500 | 2000 |
| Max. weight t | 22.5 | 45.0 | 15.0 | 40.0 | 15.0 | 45.0 | 22.5 |

| Trough        | 1    | 2    | 3    | 4    | 5    |
|---------------|------|------|------|------|------|
| Ø min. mm     | 900  | 900  | 900  | 900  | 900  |
| Ø max. mm     | 2200 | 2200 | 2200 | 2200 | 2200 |
| Max. weight t | 30.0 | 45.0 | 45.0 | 45.0 | 30.0 |

| Trough        | 1    | 2    | 3    | 4    | 5    |
|---------------|------|------|------|------|------|
| Ø min. mm     | 900  | 900  | 900  | 900  | 900  |
| Ø max. mm     | 2200 | 2200 | 2200 | 2200 | 2200 |
| Max. weight t | 30.0 | 45.0 | 45.0 | 45.0 | 30.0 |

which is specified only in the wagon's load limit panel.  
arranged symmetrically.

These wagons are scheduled to be available from autumn 2009.

# Bogie coil wagons with sliding covers



Shimmns-tu 718

Shimmns wagons are used to transport weather-sensitive coils. The wagons have five loading troughs that are permanently installed in the vehicle underframe. Depending on wagon type, the cover used to protect the goods is either in the form of a tarpaulin canopy or a telescopic hood. The canopy or hood can each be pushed together so that two thirds of the floor area is exposed for loading and unloading operations.

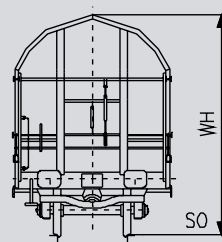
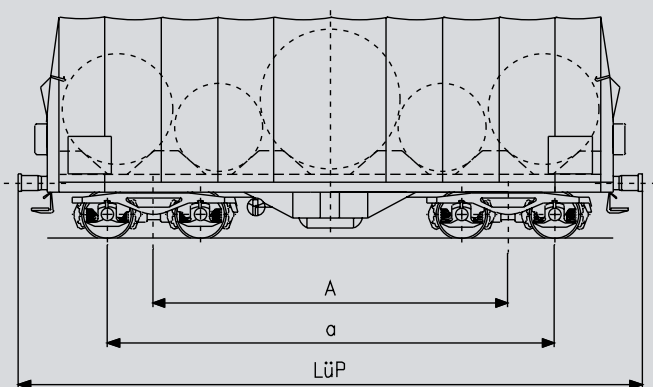
The cover, which is fitted with a central locking system, is easy to move and can be operated by a single person.

All Shi wagons are fitted with adjustable retaining arms to prevent any unwanted lateral movement of the coils during transport.

Wagons marked with the additional index letter “t” are equipped with special fastening equipment to prevent narrow-width coils from tipping during transport.

In wagons marked with the additional index letter “u”, the loading troughs are lined with fabric-reinforced rubber matting to provide extra protection for the freight.

| UIC wagon classification code and DB-specific type number   |                | Shimmns 708 <sup>1)</sup> , Shimmns-t 708 <sup>2)</sup> , Shimmns-u 708 <sup>1)</sup> , Shimmns-tu 708 <sup>2)</sup>  |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|---|----------------|---|------|------|------|------|------|------|------|--------|-----|--------|-----|-----|------|-----------------------------------|------|-----------|------|-----|------|-----------------------------------|------|-----------|------|------|------|-----------------------------------|------|---------------|------|------|------|-----------------------------------|------|-----|-----|-----|-----|--|------|------|------|------|------|---------------|------|------|------|------|------|
| Loading width in troughs  | mm             | 2400  |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Loading height  | H mm           | See loading plan  |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Floor area  | m <sup>2</sup> | See loading plan  |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Height of wagon   | WH mm          | 4110  |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Number of axles   |                | 4   |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Distance between bogie pivots   | A mm           | 7000  |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Distance between outer axles  | a mm           | 8800  |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Length over buffers   | LüP mm         | 12040   |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Average tare weight of wagon  | kg             | 22790 <sup>1)</sup> , 23520 <sup>2)</sup>   |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Load limits   | t              | <sup>1)</sup> <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C2</th> <th>C3</th> <th>C4</th> <th>D2</th> <th>D3</th> <th>D4</th> <th></th> </tr> </thead> <tbody> <tr> <td>S</td> <td>37.0</td> <td>37.0</td> <td>49.0</td> <td>54.0</td> <td>59.0</td> <td>54.0</td> <td>63.5</td> <td>67.0</td> <td></td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="9">0.00</td> <td></td> </tr> </tbody> </table>                               |      |      |      |      |      |      |      |        |     |        | A   | B1  | B2   | C2                                | C3   | C4        | D2   | D3  | D4   |                                   | S    | 37.0      | 37.0 | 49.0 | 54.0 | 59.0                              | 54.0 | 63.5          | 67.0 |      | **   | 120                               | 0.00 |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                |   | A    | B1   | B2   | C2   | C3   | C4   | D2   | D3     | D4  |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                | S   | 37.0 | 37.0 | 49.0 | 54.0 | 59.0 | 54.0 | 63.5 | 67.0   |     | **     |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                | 120   | 0.00 |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                | <table border="1"> <thead> <tr> <th>DB</th> <th>CM2</th> <th>CM3</th> <th>CM4</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>54.5</td> <td>61.5</td> <td>61.5</td> </tr> </tbody> </table>   |      |      |      |      |      |      |      |        |     | DB     | CM2 | CM3 | CM4  | 100                               | 54.5 | 61.5      | 61.5 |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                | DB  | CM2  | CM3  | CM4  |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| 100   | 54.5           | 61.5  | 61.5 |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| <sup>2)</sup> <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C2</th> <th>C3</th> <th>C4</th> <th>D2</th> <th>D3</th> <th>D4</th> <th></th> </tr> </thead> <tbody> <tr> <td>S</td> <td>36.5</td> <td>36.5</td> <td>48.0</td> <td>53.5</td> <td>58.5</td> <td>53.5</td> <td>63.0</td> <td>66.5</td> <td></td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="9">0.00</td> <td></td> </tr> </tbody> </table>   |                |   |      |      |      |      |      |      |      |        | A   | B1     | B2  | C2  | C3   | C4                                | D2   | D3        | D4   |     | S    | 36.5                              | 36.5 | 48.0      | 53.5 | 58.5 | 53.5 | 63.0                              | 66.5 |               | **   | 120  | 0.00 |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   | A              | B1  | B2   | C2   | C3   | C4   | D2   | D3   | D4   |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| S   | 36.5           | 36.5  | 48.0 | 53.5 | 58.5 | 53.5 | 63.0 | 66.5 |      | **     |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| 120   | 0.00           |   |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| <table border="1"> <thead> <tr> <th>DB</th> <th>CM2</th> <th>CM3</th> <th>CM4</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>53.5</td> <td>60.5</td> <td>60.5</td> </tr> </tbody> </table>   |                |   |      |      |      |      |      |      |      | DB     | CM2 | CM3    | CM4 | 100 | 53.5 | 60.5                              | 60.5 |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| DB  | CM2            | CM3   | CM4  |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| 100   | 53.5           | 60.5  | 60.5 |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                |   |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                |   |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Loading plan  |                | <sup>1)</sup> <table border="1"> <thead> <tr> <th>Trough</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>Ø min. mm</td> <td>1000</td> <td>800</td> <td>1000</td> <td>800</td> <td>1000</td> </tr> <tr> <td>Ø max. mm</td> <td>2250</td> <td>1700</td> <td>2700</td> <td>1700</td> <td>2250</td> </tr> <tr> <td>Weight max. t</td> <td>33.0</td> <td>17.0</td> <td>45.0</td> <td>17.0</td> <td>33.0</td> </tr> </tbody> </table> |      |      |      |      |      |      |      |        |     | Trough | 1   | 2   | 3    | 4                                 | 5    | Ø min. mm | 1000 | 800 | 1000 | 800                               | 1000 | Ø max. mm | 2250 | 1700 | 2700 | 1700                              | 2250 | Weight max. t | 33.0 | 17.0 | 45.0 | 17.0                              | 33.0 |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                | Trough  | 1    | 2    | 3    | 4    | 5    |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                | Ø min. mm   | 1000 | 800  | 1000 | 800  | 1000 |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                | Ø max. mm   | 2250 | 1700 | 2700 | 1700 | 2250 |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Weight max. t   | 33.0           | 17.0  | 45.0 | 17.0 | 33.0 |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| <sup>2)</sup> <table border="1"> <thead> <tr> <th>Trough</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> </tr> </thead> <tbody> <tr> <td>min. diameter of slit-strip coils</td> <td>1000</td> <td>800</td> <td>1000</td> <td>800</td> <td>1000</td> </tr> <tr> <td>max. diameter of slit-strip coils</td> <td>2250</td> <td>1700</td> <td>2700</td> <td>1700</td> <td>2250</td> </tr> <tr> <td>max. width between retaining arms</td> <td>2037</td> <td>2037</td> <td>2037</td> <td>2037</td> <td>2037</td> </tr> <tr> <td>min. width between retaining arms</td> <td>352</td> <td>352</td> <td>562</td> <td>352</td> <td>352</td> </tr> <tr> <td>Height of top of retaining arm above top-of-rail (approx.)</td> <td>2500</td> <td>2500</td> <td>2500</td> <td>2500</td> <td>2500</td> </tr> <tr> <td>Max. weight t</td> <td>33.0</td> <td>17.0</td> <td>45.0</td> <td>17.0</td> <td>33.0</td> </tr> </tbody> </table> |                |   |      |      |      |      |      |      |      | Trough | 1   | 2      | 3   | 4   | 5    | min. diameter of slit-strip coils | 1000 | 800       | 1000 | 800 | 1000 | max. diameter of slit-strip coils | 2250 | 1700      | 2700 | 1700 | 2250 | max. width between retaining arms | 2037 | 2037          | 2037 | 2037 | 2037 | min. width between retaining arms | 352  | 352 | 562 | 352 | 352 | Height of top of retaining arm above top-of-rail (approx.) | 2500 | 2500 | 2500 | 2500 | 2500 | Max. weight t | 33.0 | 17.0 | 45.0 | 17.0 | 33.0 |
| Trough  | 1              | 2   | 3    | 4    | 5    |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| min. diameter of slit-strip coils   | 1000           | 800   | 1000 | 800  | 1000 |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| max. diameter of slit-strip coils   | 2250           | 1700  | 2700 | 1700 | 2250 |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| max. width between retaining arms   | 2037           | 2037  | 2037 | 2037 | 2037 |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| min. width between retaining arms   | 352            | 352   | 562  | 352  | 352  |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Height of top of retaining arm above top-of-rail (approx.)  | 2500           | 2500  | 2500 | 2500 | 2500 |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Max. weight t   | 33.0           | 17.0  | 45.0 | 17.0 | 33.0 |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                |   |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
|   |                |   |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |
| Special features  |                | The weights given in the loading plans only in the wagon's  |      |      |      |      |      |      |      |        |     |        |     |     |      |                                   |      |           |      |     |      |                                   |      |           |      |      |      |                                   |      |               |      |      |      |                                   |      |     |     |     |     |  |      |      |      |      |      |               |      |      |      |      |      |



**Shimmns-tu 718, Shimmns-tt 722,  
Shimmns-tt 723**

**Shimmns-tu 720**

**Sfhimmns 732**

2410

2400

2260

See loading plan

See loading plan

See loading plan

See loading plan

See loading plan

See loading plan

4275

4275

3925

4

4

4

7000

7000

7800

8800

8800

9600

12040

12040

12825

21600

22000

21500

|     | A    | B1   | B2   | C2   | C3   | C4   | D2   | D3 | D4 |
|-----|------|------|------|------|------|------|------|----|----|
| S   | 38.0 | 50.0 | 55.0 | 60.0 | 55.0 | 65.0 | 68.0 | ** |    |
| 120 | 0.00 |      |      |      |      |      |      |    |    |

|     | A    | B1   | B2   | C2   | C3   | C4   | D2   | D3   | D4   |
|-----|------|------|------|------|------|------|------|------|------|
| S   | 38.2 | 38.2 | 50.0 | 55.0 | 58.0 | 58.0 | 55.0 | 65.0 | 68.0 |
| 120 | 0.00 |      |      |      |      |      |      |      |      |

|     | A    | B1   | B2   | C    | D2   | D3   | D4   |
|-----|------|------|------|------|------|------|------|
| S   | 42.5 | 42.5 | 50.5 | 58.5 | 60.5 | 68.5 | 68.5 |
| 120 | 0.00 |      |      |      |      |      |      |

| DB  | CM2  | CM3  | CM4 |
|-----|------|------|-----|
| 100 | 55.0 | 62.0 |     |

| Trough   | 1    | 2    | 3                  | 4    | 5    |
|--|------|------|--------------------|------|------|
| min. diameter of slit-strip coils                          | 1000 | 800  | 1000               | 800  | 1000 |
| max. diameter of slit-strip coils                          | 2250 | 1700 | 2700 <sup>1)</sup> | 1700 | 2250 |
| max. width between retaining arms                          | 2052 | 2052 | 2052               | 2052 | 2052 |
| min. width between retaining arms                          | 352  | 352  | 352                | 352  | 352  |
| Height of top of retaining arm above top-of-rail (approx.) | 2455 | 2265 | 2210               | 2265 | 2455 |
| Max. weight t  | 34.0 | 17.0 | 45.0               | 17.0 | 34.0 |

| Trough        | 1    | 2    | 3    | 4    | 5    |
|---------------|------|------|------|------|------|
| Ø min. mm     | 1000 | 800  | 1000 | 800  | 1000 |
| Ø max. mm     | 2250 | 1700 | 2700 | 1700 | 2250 |
| Max. weight t | 33.0 | 17.0 | 45.0 | 17.0 | 33.0 |

| Trough        | 1    | 2    | 3                  | 4    | 5    |
|---------------|------|------|--------------------|------|------|
| Ø min. mm     | 1000 | 800  | 1000               | 800  | 1000 |
| Ø max. mm     | 2150 | 1700 | 2400 <sup>1)</sup> | 1700 | 2150 |
| Max. weight t | 34.0 | 17.0 | 45.0               | 17.0 | 34.0 |

<sup>1)</sup> Max. diameter of slit-strip coils: 2250 mm

<sup>1)</sup> Max. diameter of slit-strip coils: 2250 mm

do not refer to the total load carrying capacity of the wagon, which is specified load limit panel. The loads must be arranged symmetrically. The specified diameters only apply to sheet metal coils.

# Bogie coil wagons with sliding covers

## Sahimms 901



Sahimms wagons are specially built for transporting weather-sensitive coils of very high unit weight. The Sahimms 900 has five loading troughs permanently installed in the wagon's underframe. The wagon cover comprises four sliding telescopic hoods made of steel. The hoods can be slid over one another so that they are either all at one end of the wagon or split between the two ends, exposing in each case 40% of the total loading area.

The Sahimms 901 is equipped with seven loading troughs and a tarpaulin canopy.

The tarpaulin cover can be slid to the ends of the wagon to expose two thirds of the floor area for loading or unloading operations. The canopy is locked at the end walls via a four-point central locking system that can be actuated from ground level or from the loading ramp.

### UIC wagon classification code and DB-specific type number

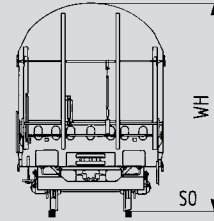
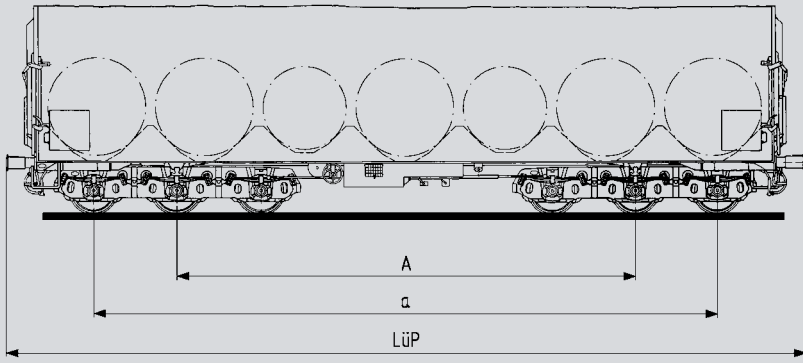
|                               |     |                |
|-------------------------------|-----|----------------|
| Loading width in troughs      |     | mm             |
| Loading height                | H   | mm             |
| Floor area                    |     | m <sup>2</sup> |
| Height of wagon               | WH  | mm             |
| Number of axles               |     |                |
| Distance between bogie pivots | A   | mm             |
| Distance between outer axles  | a   | mm             |
| Length over buffers           | LüP | mm             |
| Average tare weight of wagon  |     | kg             |
| Load limits                   |     | t              |

|                           |  |   |
|---------------------------|--|---|
| Maximum carrying capacity |  | t |
|---------------------------|--|---|

Loading plan

Special features





**Sahimms(-u) 900**

2400

See loading plan

See loading plan

4148

6

8000

11400

15000

33030

|     | A    | B1   | B2 | C    | D2 | D3/D4 |
|-----|------|------|----|------|----|-------|
| S   | 41.5 | 53.5 |    | 62.5 |    | 71.5  |
| 120 | 0.00 |      |    |      |    |       |

| DB  | CE   | D |
|-----|------|---|
| 100 | 86.5 |   |

98.5

| Trough        | 1    | 2    | 3    | 4    | 5    |
|---------------|------|------|------|------|------|
| Ø min. mm     | 1200 | 1200 | 1200 | 1200 | 1200 |
| Ø max. mm     | 2250 | 2700 | 2700 | 2700 | 2250 |
| Max. weight t | 25.0 | 45.0 | 45.0 | 45.0 | 25.0 |

**Sahimms(-u) 901**

2495

See loading plan

See loading plan

4295

6

9400

12800

16400

35000

|     | A    | B1   | B2   | C    | D    |
|-----|------|------|------|------|------|
| S   | 40.0 | 47.0 | 52.0 | 61.0 | 70.0 |
| 120 | 0.00 |      |      |      |      |

| DB  | CE   | D |
|-----|------|---|
| 100 | 85.0 |   |

100.0

| Trough        | 1    | 2    | 3    | 4    | 5    | 6    | 7    |
|---------------|------|------|------|------|------|------|------|
| Ø min. mm     | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Ø max. mm     | 2000 | 2000 | 1700 | 2000 | 1700 | 2000 | 2000 |
| Max. weight t | 25.0 | 35.0 | 17.0 | 35.0 | 17.0 | 35.0 | 25.0 |

The weights given in the loading plans do not refer to the total load carrying capacity of the wagon, which is specified only in the wagon's load limit panel. The loads must be arranged symmetrically. The specified diameters only apply to sheet metal coils.

# Bogie flat wagons with cargo ratchet straps

## Snps 719



The Snps wagons are particularly well suited for conveying pipes, log wood and sawn wood. Design features:

- Each long side of the wagon has eight extra-wide and extra-strong stanchions that are permanently attached to the wagon underframe,
- In order to lash down the freight, each pair of stanchions is fitted with a ratchet strap that can be operated by a single person,
- The stanchions have rollers situated at different heights to guide the lashing straps so that loads that extend only part way up the stanchion can also be properly secured.

The wagons may only be hauled if the lashing straps have been properly tensioned.

The cargo is placed onto wooden bolsters (height: 80 mm) located between each opposite pair of stanchions and at a distance of 1 m from the ends of the wagon. Pallet jacks, forklift trucks etc. cannot be driven on the floor of these wagons. Lower auxiliary bolsters placed between the main bolsters prevent the load from sagging.

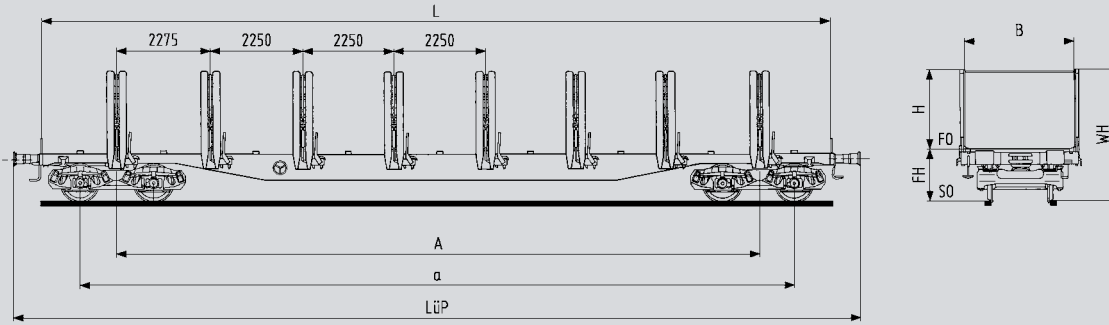
The Snps wagon is particularly well suited for transporting logs with lengths from 4 m to 19.5 m and for sawn timber that does not need to be kept dry.

### UIC wagon classification code and DB-Specific type number

|                               |     |                |
|-------------------------------|-----|----------------|
| Loading length                | L   | mm             |
| Loading width                 | B   | mm             |
| Height of stanchion           | H   | mm             |
| Floor area                    |     | m <sup>2</sup> |
| Floor height                  | FH  | mm             |
| Height of bolsters            |     | mm             |
| Height of wagon               | WH  | mm             |
| Number of axles               |     |                |
| Distance between bogie pivots | A   | mm             |
| Distance between outer axles  | a   | mm             |
| Length over buffers           | LüP | mm             |
| Average tare weight of wagon  |     | kg             |
| Load limits                   |     | t              |

Concentrated loads

Special features



### Snps 719

19000

2723

2000

51.7

1280

80

3280

4

15800

17600

20840

24990

|     | A    | B    | C    | D    |
|-----|------|------|------|------|
| S   | 39.0 | 47.0 | 57.0 | 63.0 |
| 120 | 0.00 |      |      |      |
| DB  | CM   |      |      |      |
| 100 | 59.0 |      |      |      |

| m   | t    |      |
|-----|------|------|
|     | ▲    | ▲    |
| a-a | 2.2  | 33.0 |
| b-b | 6.7  | 39.0 |
| c-c | 11.2 | 39.0 |
| d-d | 15.8 | 52.0 |
| e-e | 17.6 | 63.0 |

### Sns 727

19098

2850

2000

54.4

1350

98

3349

4

14140

15940

20440

26500

|     | A    | B    | C    | D    |
|-----|------|------|------|------|
| S   | 37.5 | 45.5 | 53.5 | 63.5 |
| 120 | 0.00 |      |      |      |
| DB  | CM   |      |      |      |
| 100 | 57.5 |      |      |      |

| m   | t     |      |
|-----|-------|------|
|     | ▲     | ▲    |
| a-a | 2.25  | 33.0 |
| b-b | 6.75  | 48.0 |
| c-c | 11.25 | 63.5 |
| d-d | 14.14 | 63.5 |

8 pairs of stanchions with ratchet straps for tying down the load

Distance between stanchions: 2250 mm

To help secure the load, each end of the wagon has an outward folding end board

# Bogie wagons with fully opening roller roofs

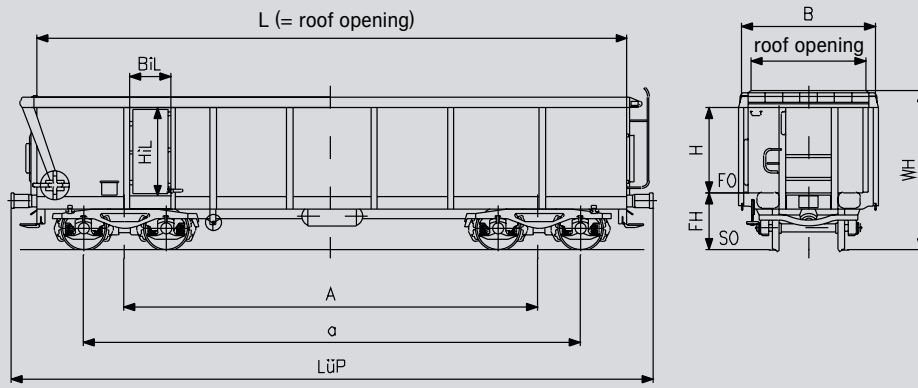
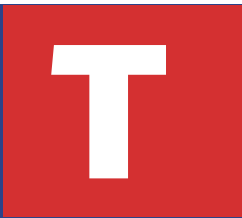
## Tamns 895



Our Taems wagons with their roller roofs and wide-access side doors are especially well suited for transporting heavy packaged goods.

The Tamns wagons are bogie freight wagons with a steel floor and a fully opening plastic roller roof and are used primarily for transporting moisture-sensitive bulk goods, such as clay or FGD gypsum. They are also suitable for conveying other goods, such as steel pipes, steel plate and sectional steel.

| UIC wagon classification code and DB-specific type number |        |                           |                |
|---|--------|---------------------------|----------------|
| Loading length  | L      |                           | mm             |
| Loading width   | B      |                           | mm             |
| Loading height H measured up to                           |        |                           |                |
|   |        | top of side wall          |                |
|   |        | bottom edge of roof brace |                |
| Floor area  |        |                           | m <sup>2</sup> |
| Load capacity   |        |                           | m <sup>3</sup> |
| Side-wall access  |        |                           |                |
|   | Width  | BiL                       | mm             |
|   | Height | HiL                       | mm             |
| Length of access opening when roof fully retracted        |        |                           |                |
|   |        |                           | mm             |
| Floor height  | FH     |                           | mm             |
| Height of wagon   | WH     |                           | mm             |
| Number of axles   |        |                           |                |
| Distance between bogie pivots                             | A      |                           | mm             |
| Distance between outer axles                              | a      |                           | mm             |
| Length over buffers                                       | LüP    |                           | mm             |
| Average tare weight of wagon                              |        |                           | kg             |
| Load limits   |        |                           | t              |
| Concentrated loads  |        |                           |                |
| Note about information in load limit panels               |        |                           |                |
| Special features  |        |                           |                |



| Taems 889  | with roller roof<br>Tamns 893, Tamns-x 893 | Tamns 895    |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
|--|--|--------------|---------|------|---------|-------|---------|------|---|------|--|---|---------|------|------|---------|------|------|----------|------|------|-----------|------|---|---|---|---|---|---------|------|------|---------|------|-------|---------|------|------|------|------|------|------|-----|------|--|--|--|--|--|----|----|-----|------|
| 12350  | 14492                                      | 12772        |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 2650   | 2720                                       | 2780         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 2250   | 2040                                       | 2124         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 32.6   | 39.4                                       | 35.5         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 73.5   | 80.0                                       | 75.4         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 4000 <sup>1)</sup>   | 1800                                       | 890          |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
|  | 1800                                       | 1800         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 12350 x 2250   | 14492 x 2670                               | 12772 x 2630 |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 1200   | 1235                                       | 1196         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 3545   | 3420                                       | 3462         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 4  | 4  | 4            |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 8500   | 10700                                      | 9000         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 10300  | 12500                                      | 10800        |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 14040  | 15740 <sup>1)</sup> , 15990 <sup>2)</sup>  | 14040        |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 22300  | 25300 <sup>1)</sup>                        | 20500        |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
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|  | A  | B1           | B2      | C    |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| S  | 40.5                                       | 47.0         | 48.5    | 56.5 |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
|  | A  | B            | C       | D    |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| S  | 38.5                                       | 46.5         | 56.5    | 64.5 |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 120  | 0.00                                       |              |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
|  | A  | B1           | B2      | C    | D2      | D3/D4 |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| S  | 43.0                                       | 49.0         | 51.0    | 61.0 | 68.5    | 69.0  |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 120  | 0.00                                       |              |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| DB   | CM   |              |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| 100  | 63.0                                       |              |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
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| m  | t  |              |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| a-a 2.0  | 35.0                                       |              |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| b-b 3.0  | 42.5                                       |              |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| c-c 4.0  | 50.0                                       |              |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| m  | t  | t            |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| a-a 3.0  | 23.0                                       | 26.0         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| b-b 5.0  | 27.0                                       | 30.0         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| c-c 10.7   | 39.0                                       | 64.5         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| d-d 14.49  | 64.5                                       | -            |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| m  | t  | t            |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| a-a 3.0  | 23.0                                       | 26.0         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| b-b 5.0  | 27.0                                       | 30.0         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |
| c-c 9.0  | 39.0                                       | 69.0         |         |      |         |       |         |      |   |      |  |   |         |      |      |         |      |      |          |      |      |           |      |   |   |   |   |   |         |      |      |         |      |       |         |      |      |      |      |      |      |     |      |  |  |  |  |  |    |    |     |      |

As a result of the different technical configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.

<sup>1)</sup> Width of door opening in Taems 889 wagons with wagon nos. 084 7 750 to 084 7 759: 2700 mm

<sup>1)</sup> without end platform  
<sup>2)</sup> with end platform  
 Doors arranged diagonally to one another  
 Only for transporting clay

Doors arranged diagonally to one another  
 Only for transporting clay

# Covered wagons for bulk agricultural goods (HACCP-

## Tadgs 959



DB Schenker Rail Deutschland AG keeps a fleet of two-axle and four-axle covered wagons with bulk or controlled gravity unloading specifically for transporting food and animal feeds.

These wagons are particularly well suited for transporting bulk goods that need to be protected from the weather. They are equipped with a trackside discharge device that allows for controlled unloading of the freight.

The wagons are used exclusively for transporting foodstuffs, such as grain, malt, feedstuffs and sugar. The two-axle Tdgs-v 930 wagon has a controlled discharge device located on the side of the vehicle. The wagon interior has a special coating to facilitate the transport of bulk sugar. Like the two-axle Tdgs-v wagon, the four-axle Tadgs 957/959 wagons are also equipped with a controlled discharge device located on the side of the vehicle. The body of the Tagnos 898 wagon is constructed from stainless steel and is designed to enable axial bulk unloading of its contents via four discharge outlets, which are activated in pairs.

A particular advantage of these wagons is that they minimise dust generation during loading and unloading operations. Most of the vehicles have a high-quality interior coating that:

- protects the load from contamination
- makes these wagons particularly suitable for transporting foodstuffs
- facilitates unloading (improved discharge flow), particularly in the case of goods with poor flow properties
- provides improved corrosion resistance against aggressive loads

### UIC wagon classification code and DB-specific type number

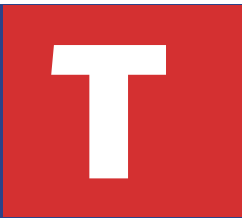
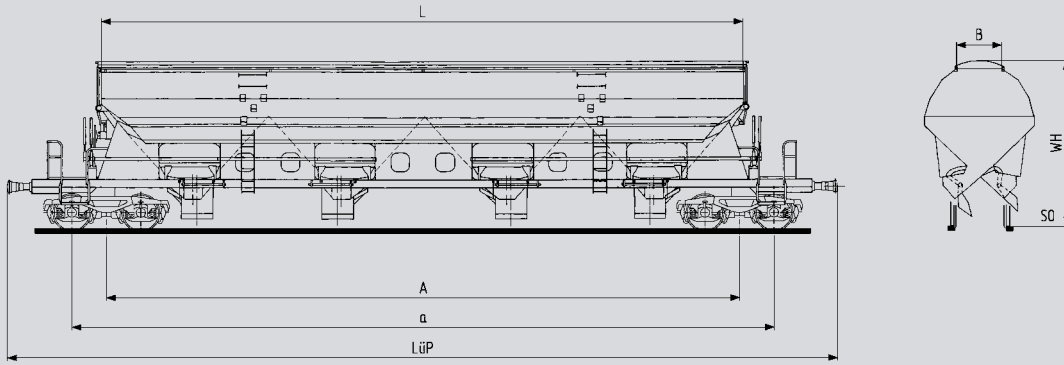
|                                    |     |                |
|------------------------------------|-----|----------------|
| Inside length of hopper            | L   | mm             |
| Inside width of hopper             | B   | mm             |
| Load capacity                      |     | m <sup>3</sup> |
| Width of fixed discharge outlets   |     | mm             |
| Height of fixed discharge outlets  |     | mm             |
| Width of swivel discharge outlets  |     | mm             |
| Height of swivel discharge outlets |     | mm             |
| Height of wagon                    | WH  | mm             |
| Number of axles                    |     |                |
| Distance between axles             |     |                |
| Distance between bogie pivots      | A   | mm             |
| Distance between outer axles       | a   | mm             |
| Length over buffers                | LüP | mm             |
| Average tare weight of wagon       |     | kg             |
| Load limits                        |     | t              |

Note about information in load limit panels

Type of discharge

Special features

# certified) with bulk/controlled gravity unloading



| Tagnoos 898   | Tadgs 957, Tadgs-y 057 | Tadgs-(v) 959 | Tdgs-v 930 |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
|---|------------------------|---------------|------------|------|---|---|------|------|------|------|-----|------|--|--|--|----|----|-----|------|---|--|---|---|---|---|------|------|------|-----|------|--|--|----|----|---|-----|------|--|---|--|---|---|---|---|------|------|------|---|--|---|---|---|---|------|------|------|
| 12962   | 14614                  | 16800         | 7900       |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 1200  | 1200                   | 1200          | 1200       |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 90.0  | 83.0                   | 80.0          | 38.0       |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 800 x 1140  | 520                    | 500           | 500        |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
|   | 720                    | 720           | 500        |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
|   | 624                    | 830           | 831        |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
|   | 385                    | 385           |            |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 4290  | 4288                   | 4249          | 4256       |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 4   | 4                      | 4             | 2          |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
|   |                        |               | 6000       |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 12140   | 14000                  | 16600         |            |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 13940   | 15800                  | 18400         |            |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 17180   | 19040                  | 21640         | 9640       |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 24000   | 27000                  | 24800         | 12800      |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td><td>D</td></tr> <tr><td>S</td><td>40.0</td><td>48.0</td><td>58.0</td><td>66.0</td></tr> <tr><td>120</td><td colspan="4">0.00</td></tr> </table><br><table border="1"> <tr><td>DB</td><td>CM</td></tr> <tr><td>100</td><td>60.0</td></tr> </table> |                        | A             | B          | C    | D | S | 40.0 | 48.0 | 58.0 | 66.0 | 120 | 0.00 |  |  |  | DB | CM | 100 | 60.0 | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>37.0</td><td>45.0</td><td>53.0</td></tr> <tr><td>120</td><td colspan="3">0.00</td></tr> </table><br><table border="1"> <tr><td>DB</td><td>CM</td><td>D</td></tr> <tr><td>100</td><td>57.0</td><td></td></tr> </table> |  | A | B | C | S | 37.0 | 45.0 | 53.0 | 120 | 0.00 |  |  | DB | CM | D | 100 | 57.0 |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>39.0</td><td>47.0</td><td>55.0</td></tr> </table> |  | A | B | C | S | 39.0 | 47.0 | 55.0 | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>19.0</td><td>23.0</td><td>27.0</td></tr> </table> |  | A | B | C | S | 19.0 | 23.0 | 27.0 |
|   | A                      | B             | C          | D    |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| S   | 40.0                   | 48.0          | 58.0       | 66.0 |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 120   | 0.00                   |               |            |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| DB  | CM                     |               |            |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 100   | 60.0                   |               |            |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
|   | A                      | B             | C          |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| S   | 37.0                   | 45.0          | 53.0       |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 120   | 0.00                   |               |            |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| DB  | CM                     | D             |            |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| 100   | 57.0                   |               |            |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
|   | A                      | B             | C          |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| S   | 39.0                   | 47.0          | 55.0       |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
|   | A                      | B             | C          |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |
| S   | 19.0                   | 23.0          | 27.0       |      |   |   |      |      |      |      |     |      |  |  |  |    |    |     |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |

As a result of the different technical configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.

axial controlled gravity unloading

bilateral controlled gravity unloading

4 clamshell gates, axial discharge, actuated in pairs

# Bogie covered hopper wagons with controlled gravity



Tds 940

The Tal wagons (see pages 98/99) are similar to the Fal wagons (see Page 40) in terms of their construction and their loading characteristics.

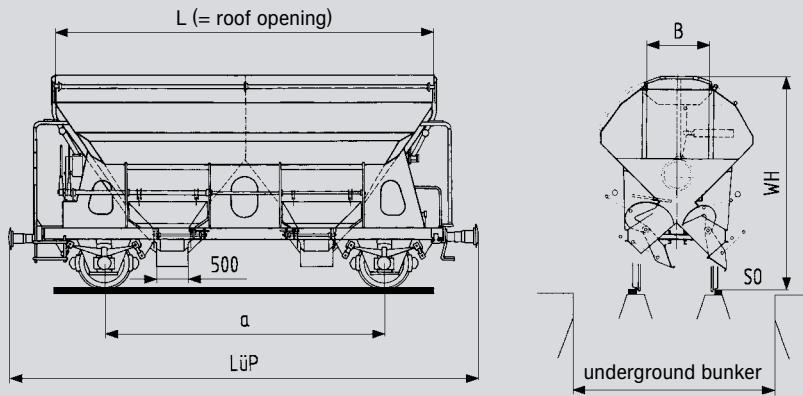
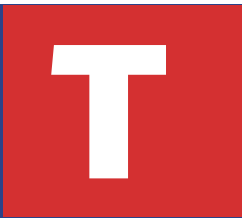
They are available with mechanically and hydraulically activated discharge flaps. The hopper is also fitted with a one-piece swing roof panel that can be operated with a handwheel from the wagon platform.

#### Usage:

Transport of moisture-sensitive bulk materials. The interiors of the Talns 969, 970 and 971 wagons are coated to improve material flow characteristics.

| UIC wagon classification code and DB-specific type number |      |                | Tds 925  |  |   |   |   |   |      |      |      |
|---|------|----------------|--|--|---|---|---|---|------|------|------|
| Inside length of hopper                                   | L    | mm             | 7390   |  |   |   |   |   |      |      |      |
| Inside width of hopper                                    | B    | mm             | 1200   |  |   |   |   |   |      |      |      |
| Load capacity   |      | m <sup>3</sup> | 32.0   |  |   |   |   |   |      |      |      |
| Width of fixed discharge outlets                          |      | mm             | 500  |  |   |   |   |   |      |      |      |
| Height of fixed discharge outlets                         |      | mm             |  |  |   |   |   |   |      |      |      |
| Width of swivel discharge outlets                         |      | mm             | 630  |  |   |   |   |   |      |      |      |
| Height of swivel discharge outlets                        |      | mm             |  |  |   |   |   |   |      |      |      |
| Height of wagon   | WH   | mm             | 4256   |  |   |   |   |   |      |      |      |
| Number of axles   |      |                | 2  |  |   |   |   |   |      |      |      |
| Distance between axles                                    |      |                | 5500   |  |   |   |   |   |      |      |      |
| Distance between bogie pivots                             | A    | mm             |  |  |   |   |   |   |      |      |      |
| Distance between outer axles                              | a    | mm             |  |  |   |   |   |   |      |      |      |
| Length over buffers                                       | LüP  | mm             | 9140   |  |   |   |   |   |      |      |      |
| Average tare weight of wagon                              |      | kg             | 13000  |  |   |   |   |   |      |      |      |
| Load limits   |      | t              | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>19.0</td> <td>23.0</td> <td>27.0</td> </tr> </tbody> </table> ** |  | A | B | C | S | 19.0 | 23.0 | 27.0 |
|   | A    | B              | C  |  |   |   |   |   |      |      |      |
| S   | 19.0 | 23.0           | 27.0   |  |   |   |   |   |      |      |      |
| Note about information in load limits panels              |      |                | As a result of the different technical   |  |   |   |   |   |      |      |      |
| Type of discharge   |      |                |  |  |   |   |   |   |      |      |      |
| Special features  |      |                |  |  |   |   |   |   |      |      |      |





| metered discharge   |         |  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
|---|---------|--|------------------------------------|---|---|------|------|------|---|--|---|---|---|---|------|------|------|---|--|---|---|---|---|------|------|------|-----|------|--|--|----|---|-----|------|--|--|---|---|---|---|------|------|------|-----|------|--|--|----|----|---|-----|------|--|--|--|---|---|---|---|------|------|------|-----|------|--|--|----|----|---|-----|------|--|
| Tds 930   | Tds 932 | Tds 940 <sup>2)</sup> , Tds 941, Tds 942 <sup>2)</sup> | Tads 957, Tads-y-957 <sup>1)</sup> | Tads 958 <sup>1)</sup> , Tads-y-958 <sup>1)</sup> |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 7900  | 7900    | 8000   | 14614                              | 14614   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 1200  | 1200    | 1200   | 1200                               | 1200  |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 38.0  | 38.0    | 38.0   | 83.0                               | 66.5  |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 500   | 500     | 500  | 520                                | 600   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
|   |         |  | 720                                | 700   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 831   | 630     | 600  | 624                                | 476   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
|   |         |  | 385                                | 395   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 4256  | 4256    | 4198   | 4288                               | 4206  |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 2   | 2       | 2  | 4                                  | 4   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 6000  | 6000    | 6000   |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
|   |         |  | 14000                              | 14000   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
|   |         |  | 15800                              | 15800   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 9640  | 9640    | 9640   | 19040                              | 19040   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 12800   | 12785   | 13500  | 27000                              | 25300   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>19.0</td><td>23.0</td><td>27.0</td></tr> </table> |         | A  | B                                  | C   | S | 19.0 | 23.0 | 27.0 | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>19.0</td><td>23.0</td><td>27.0</td></tr> </table> |  | A | B | C | S | 19.0 | 23.0 | 27.0 | <sup>2)</sup> <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>18.5</td><td>22.5</td><td>26.5</td></tr> <tr><td>120</td><td colspan="3">0.00</td></tr> </table><br><sup>3)</sup> <table border="1"> <tr><td>DB</td><td>C</td></tr> <tr><td>100</td><td>27.0</td></tr> </table> |  | A | B | C | S | 18.5 | 22.5 | 26.5 | 120 | 0.00 |  |  | DB | C | 100 | 27.0 | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>37.0</td><td>45.0</td><td>53.0</td></tr> <tr><td>120</td><td colspan="3">0.00</td></tr> </table><br><table border="1"> <tr><td>DB</td><td>CM</td><td>D</td></tr> <tr><td>100</td><td colspan="2">57.0</td></tr> </table> |  | A | B | C | S | 37.0 | 45.0 | 53.0 | 120 | 0.00 |  |  | DB | CM | D | 100 | 57.0 |  | <table border="1"> <tr><td></td><td>A</td><td>B</td><td>C</td></tr> <tr><td>S</td><td>38.5</td><td>46.5</td><td>54.5</td></tr> <tr><td>120</td><td colspan="3">0.00</td></tr> </table><br><table border="1"> <tr><td>DB</td><td>CM</td><td>D</td></tr> <tr><td>100</td><td colspan="2">58.5</td></tr> </table> |  | A | B | C | S | 38.5 | 46.5 | 54.5 | 120 | 0.00 |  |  | DB | CM | D | 100 | 58.5 |  |
|   | A       | B  | C                                  |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| S   | 19.0    | 23.0   | 27.0                               |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
|   | A       | B  | C                                  |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| S   | 19.0    | 23.0   | 27.0                               |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
|   | A       | B  | C                                  |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| S   | 18.5    | 22.5   | 26.5                               |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 120   | 0.00    |  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| DB  | C       |  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 100   | 27.0    |  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
|   | A       | B  | C                                  |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| S   | 37.0    | 45.0   | 53.0                               |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 120   | 0.00    |  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| DB  | CM      | D  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 100   | 57.0    |  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
|   | A       | B  | C                                  |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| S   | 38.5    | 46.5   | 54.5                               |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 120   | 0.00    |  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| DB  | CM      | D  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |
| 100   | 58.5    |  |                                    |   |   |      |      |      |   |  |   |   |   |   |      |      |      |   |  |   |   |   |   |      |      |      |     |      |  |  |    |   |     |      |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |  |  |   |   |   |   |      |      |      |     |      |  |  |    |    |   |     |      |  |

configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.

bilateral controlled gravity feeds

<sup>1)</sup> not for grain

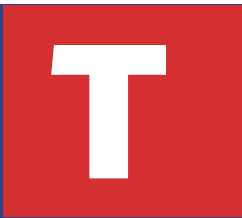
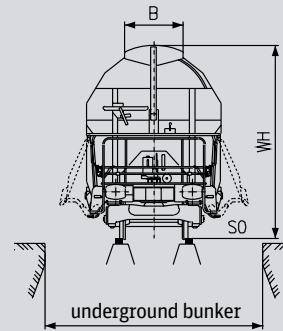
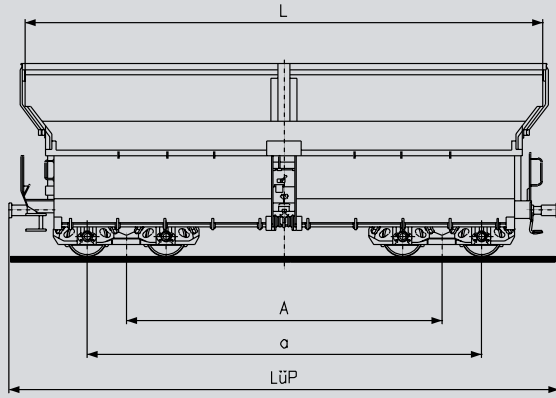
# Bogie covered hopper wagons with bulk gravity



TaInS 969

| UIC wagon classification code and DB-specific type number |  |                        | with mechanically controlled flaps  |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
|---|--|------------------------|---|---|-------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|--|----|-----|------|--|--|--|--|--|--|---|--|------|----|----|----|-------|--|---|------|------|------|------|------|----|-----|------|--|--|--|--|--|
|   |  |                        | TaInS 963   | TaInS (-x) 968  |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Inside length of hopper                                   | L  | mm                     | 10400   | 11160   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Inside width of hopper                                    | B  | mm                     | 1200  | 1200  |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Load capacity   |  | m <sup>3</sup>         | 71.5  | 71.5  |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Projection of side flaps                                  |  | mm                     |   |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
|   | max.   |                        | 4900  | 4900  |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
|   |  | in supporting position | 4100  | 4100  |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Length of discharge opening                               |  |                        |   |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
|   | per flap   | mm                     | 4950  | 4950  |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
|   | per wagon  | mm                     | 10500   | 10250   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Height of wagon   | WH   | mm                     | 4251  | 4248  |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Number of axles   |  |                        | 4   | 4   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Distance between bogie pivots                             | A  | mm                     | 6100  | 7500  |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Distance between outer axles                              | a  | mm                     | 8100, 7900 <sup>1)</sup>  | 9300  |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Length over buffers                                       | LüP  | mm                     | 11500, 11560 <sup>2)</sup>  | 12540   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Average tare weight of wagon                              |  | kg                     | 23600   | 25300   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Load limits   |  | t                      |   |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
|   |  |                        |   |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
|   |  |                        | <table border="1"> <tr> <td></td> <td>A</td> <td>B1</td> <td>B2</td> <td>C2</td> <td>C3</td> <td>C4</td> <td></td> </tr> <tr> <td>S</td> <td>34.0</td> <td>34.0</td> <td>48.0</td> <td>50.0</td> <td>56.0</td> <td></td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="6">0.00</td> <td></td> </tr> </table> |   | A     | B1  | B2  | C2  | C3  | C4   |      | S    | 34.0 | 34.0 | 48.0 | 50.0 | 56.0 |  | ** | 120 | 0.00 |  |  |  |  |  |  | <table border="1"> <tr> <td></td> <td>A/B1</td> <td>B2</td> <td>C2</td> <td>D2</td> <td>D3/D4</td> <td></td> </tr> <tr> <td>S</td> <td>38.0</td> <td>47.5</td> <td>55.5</td> <td>55.5</td> <td>65.5</td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="5">0.00</td> <td></td> </tr> </table> |  | A/B1 | B2 | C2 | D2 | D3/D4 |  | S | 38.0 | 47.5 | 55.5 | 55.5 | 65.5 | ** | 120 | 0.00 |  |  |  |  |  |
|   | A  | B1                     | B2  | C2  | C3    | C4  |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| S   | 34.0   | 34.0                   | 48.0  | 50.0  | 56.0  |     | **  |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| 120   | 0.00   |                        |   |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
|   | A/B1   | B2                     | C2  | D2  | D3/D4 |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| S   | 38.0   | 47.5                   | 55.5  | 55.5  | 65.5  | **  |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| 120   | 0.00   |                        |   |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
|   |  |                        |   | <table border="1"> <tr> <td>DB</td> <td>CM2</td> <td>CM3</td> <td>CM4</td> </tr> <tr> <td>100</td> <td>55.5</td> <td>59.5</td> <td>59.5</td> </tr> </table> | DB    | CM2 | CM3 | CM4 | 100 | 55.5 | 59.5 | 59.5 |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| DB  | CM2  | CM3                    | CM4   |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| 100   | 55.5   | 59.5                   | 59.5  |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Note about information in load limit panels               | As a result of the different technical configurations of these wagons, |                        |   |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Flap activation   | Flaps open and close in pairs.   |                        |   |   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |
| Special features  |  |                        | <sup>1)</sup> as of wagon no. 066 3 258   | <sup>2)</sup> in wagons with high-performance buffers   |       |     |     |     |     |      |      |      |      |      |      |      |      |  |    |     |      |  |  |  |  |  |  |   |  |      |    |    |    |       |  |   |      |      |      |      |      |    |     |      |  |  |  |  |  |

# unloading



| with hydraulically controlled flaps  |           |                                    |           |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
|--|-----------|------------------------------------|-----------|------|-------|-------|------|------|------|------|------|------|--|--|---|----|----|----|-------|---|------|------|------|------|------|---|--|------|----|---|----|-------|---|------|------|------|------|------|-----|------|--|--|--|--|----|-----|---------|--|--|--|-----|------|------|--|--|--|--|--|---|----|----|---|----|----|----|---|------|------|------|------|------|------|------|-----|------|--|--|--|--|--|--|----|-----|-----|-----|--|--|--|--|-----|------|------|------|--|--|--|--|
| Tals 966   | Talns 967 | Talns 969, Talns 970 <sup>1)</sup> | Talns 971 |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 10400  | 10400     | 11800                              | 12300     |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 1200   | 1200      | 1200                               | 1200      |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 53.5   | 71.5      | 77.5                               | 77.5      |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 5000   | 5000      | 4300                               | 4290      |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| -  | -         | -                                  | -         |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 4930   | 4930      | 5025                               | 5275      |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 10250  | 10250     | 10500                              | 11008     |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 4239   | 4239      | 4402                               | 4272      |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 4  | 4         | 4                                  | 4         |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 6100   | 6100      | 7200                               | 7700      |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 7900   | 7900      | 9000                               | 9500      |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 11560  | 11890     | 12540                              | 13040     |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 27700  | 25800     | 25000                              | 25000     |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C2</th> <th>C3/C4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>29.5</td> <td>29.5</td> <td>44.5</td> <td>46.0</td> <td>52.0</td> </tr> </tbody> </table> |           | A                                  | B1        | B2   | C2    | C3/C4 | S    | 29.5 | 29.5 | 44.5 | 46.0 | 52.0 | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C2</th> <th>C3/C4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>33.5</td> <td>33.5</td> <td>46.0</td> <td>50.0</td> <td>54.0</td> </tr> </tbody> </table> |  | A | B1 | B2 | C2 | C3/C4 | S | 33.5 | 33.5 | 46.0 | 50.0 | 54.0 | <table border="1"> <thead> <tr> <th></th> <th>A/B1</th> <th>B2</th> <th>C</th> <th>D2</th> <th>D3/D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>37.5</td> <td>47.0</td> <td>55.0</td> <td>55.0</td> <td>65.0</td> </tr> <tr> <td>120</td> <td colspan="5">0.00</td> </tr> <tr> <th>DB</th> <th>CM2</th> <th>CM3/CM4</th> <td colspan="3"></td> </tr> <tr> <td>100</td> <td>55.0</td> <td>59.0</td> <td colspan="3"></td> </tr> </tbody> </table> |  | A/B1 | B2 | C | D2 | D3/D4 | S | 37.5 | 47.0 | 55.0 | 55.0 | 65.0 | 120 | 0.00 |  |  |  |  | DB | CM2 | CM3/CM4 |  |  |  | 100 | 55.0 | 59.0 |  |  |  | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B1</th> <th>B2</th> <th>C</th> <th>D2</th> <th>D3</th> <th>D4</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>39.5</td> <td>40.5</td> <td>47.5</td> <td>55.5</td> <td>58.5</td> <td>65.5</td> <td>65.5</td> </tr> <tr> <td>120</td> <td colspan="7">0.00</td> </tr> <tr> <th>DB</th> <th>CM2</th> <th>CM3</th> <th>CM4</th> <td colspan="4"></td> </tr> <tr> <td>100</td> <td>58.5</td> <td>59.5</td> <td>59.5</td> <td colspan="4"></td> </tr> </tbody> </table> |  | A | B1 | B2 | C | D2 | D3 | D4 | S | 39.5 | 40.5 | 47.5 | 55.5 | 58.5 | 65.5 | 65.5 | 120 | 0.00 |  |  |  |  |  |  | DB | CM2 | CM3 | CM4 |  |  |  |  | 100 | 58.5 | 59.5 | 59.5 |  |  |  |  |
|  | A         | B1                                 | B2        | C2   | C3/C4 |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| S  | 29.5      | 29.5                               | 44.5      | 46.0 | 52.0  |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
|  | A         | B1                                 | B2        | C2   | C3/C4 |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| S  | 33.5      | 33.5                               | 46.0      | 50.0 | 54.0  |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
|  | A/B1      | B2                                 | C         | D2   | D3/D4 |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| S  | 37.5      | 47.0                               | 55.0      | 55.0 | 65.0  |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 120  | 0.00      |                                    |           |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| DB   | CM2       | CM3/CM4                            |           |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 100  | 55.0      | 59.0                               |           |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
|  | A         | B1                                 | B2        | C    | D2    | D3    | D4   |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| S  | 39.5      | 40.5                               | 47.5      | 55.5 | 58.5  | 65.5  | 65.5 |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 120  | 0.00      |                                    |           |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| DB   | CM2       | CM3                                | CM4       |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |
| 100  | 58.5      | 59.5                               | 59.5      |      |       |       |      |      |      |      |      |      |  |  |   |    |    |    |       |   |      |      |      |      |      |   |  |      |    |   |    |       |   |      |      |      |      |      |     |      |  |  |  |  |    |     |         |  |  |  |     |      |      |  |  |  |  |  |   |    |    |   |    |    |    |   |      |      |      |      |      |      |      |     |      |  |  |  |  |  |  |    |     |     |     |  |  |  |  |     |      |      |      |  |  |  |  |

the load limit markings may be marginally higher or lower than those depicted here.

Flaps open and close simultaneously or in pairs.

Talns 970:  
flaps not activated in pairs

<sup>1)</sup> Automatic unloading via stationary radio control system (FUNA) (only in unloading bays equipped with this technology)

# Bogie covered hopper wagons with bulk gravity



**Tanoos 896**

In addition to covered hopper wagons with controlled gravity unloading, we also supply vehicles, such as the Tanoos 896, that enable the goods to be discharged in bulk above the axial track centreline, allowing dust generation to be kept to a minimum.

The Tanoos 896 freight wagons are used for transporting moisture-sensitive bulk goods, particularly fertilisers, salt and other products from the potash and rock mining industries. The wagon body is made completely from steel. The goods are discharged through four pyramidal hopper outlets that are controlled in pairs by two handwheels. In addition to bulk gravity unloading, the wagon also allows the material in the hopper to be discharged in a more controlled manner. Dust emissions during loading and unloading procedures can be kept to a minimum with these wagons.

## UIC wagon classification code and DB-specific type number

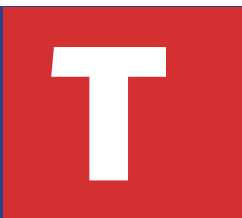
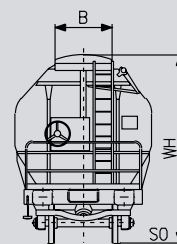
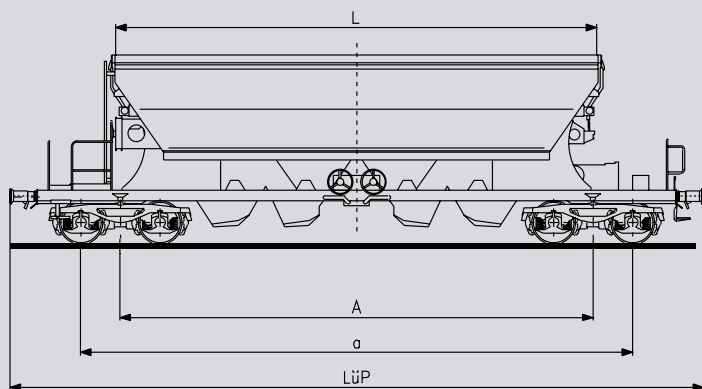
|                                  |     |                |
|----------------------------------|-----|----------------|
| Inside length of hopper          | L   | mm             |
| Inside width of hopper           | B   | mm             |
| Load capacity                    |     | m <sup>3</sup> |
| Width of fixed discharge outlets |     | mm             |
| Height of wagon                  | WH  | mm             |
| Number of axles                  |     |                |
| Distance between bogie pivots    | A   | mm             |
| Distance between outer axles     | a   | mm             |
| Length over buffers              | LüP | mm             |
| Average tare weight of wagon     |     | kg             |
| Load limits                      |     | t              |

Note about information in load limit panels

Type of discharge

Special features

# unloading



| Taos-y 894  |      |      |      | Tanoos 896               |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
|---|------|------|------|--------------------------|------|-----|------|----|---|------|------|------|----|-----|------|--|--|--|--|----|----|-----|------|---|---|---|---|--|---|------|------|------|------|----|-----|------|--|--|--|
| 10120   |      |      |      | 11000                    |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 1200  |      |      |      | 1200                     |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 67.0  |      |      |      | 75.0                     |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 800 x 1100 <sup>1)</sup>  |      |      |      | 800 x 1100 <sup>1)</sup> |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 4130  |      |      |      | 4280                     |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 4   |      |      |      | 4                        |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 10960   |      |      |      | 10760                    |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 12760   |      |      |      | 12560                    |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 16000   |      |      |      | 15800                    |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 24500   |      |      |      | 23700                    |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| <table border="1"> <tr> <td></td> <td>A</td> <td>B</td> <td>C</td> <td></td> </tr> <tr> <td>S</td> <td>39.5</td> <td>47.5</td> <td>55.5</td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="3">0.00</td> <td></td> </tr> </table> |      |      |      |                          | A    | B   | C    |    | S | 39.5 | 47.5 | 55.5 | ** | 120 | 0.00 |  |  |  | <table border="1"> <tr> <td></td> <td>A</td> <td>B</td> <td>C</td> <td>D</td> <td></td> </tr> <tr> <td>S</td> <td>40.5</td> <td>48.5</td> <td>58.5</td> <td>66.5</td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="3">0.00</td> <td></td> </tr> </table> |    |    |     |      | A | B | C | D |  | S | 40.5 | 48.5 | 58.5 | 66.5 | ** | 120 | 0.00 |  |  |  |
|   | A    | B    | C    |                          |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| S   | 39.5 | 47.5 | 55.5 | **                       |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 120   | 0.00 |      |      |                          |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
|   | A    | B    | C    | D                        |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| S   | 40.5 | 48.5 | 58.5 | 66.5                     | **   |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 120   | 0.00 |      |      |                          |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| <table border="1"> <tr> <td>DB</td> <td>DSB</td> <td>ÖBB</td> <td>SNCF</td> <td>CM</td> <td>D</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>100</td> <td>59.5</td> </tr> </table>                                     |      |      |      | DB                       | DSB  | ÖBB | SNCF | CM | D |      |      |      |    | 100 | 59.5 | <table border="1"> <tr> <td>DB</td> <td>CM</td> </tr> <tr> <td>100</td> <td>60.5</td> </tr> </table> |  |  |  | DB | CM | 100 | 60.5 |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| DB  | DSB  | ÖBB  | SNCF | CM                       | D    |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
|   |      |      |      | 100                      | 59.5 |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| DB  | CM   |      |      |                          |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 100   | 60.5 |      |      |                          |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| <table border="1"> <tr> <td>SBB</td> <td>CM</td> </tr> <tr> <td>80</td> <td>59.5</td> </tr> </table>  |      |      |      | SBB                      | CM   | 80  | 59.5 |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| SBB   | CM   |      |      |                          |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |
| 80  | 59.5 |      |      |                          |      |     |      |    |   |      |      |      |    |     |      |  |  |  |  |    |    |     |      |   |   |   |   |  |   |      |      |      |      |    |     |      |  |  |  |

As a result of the different technical configurations of these wagons, the load limit markings may be marginally higher or lower than those depicted here.

axial bulk gravity unloading

<sup>1)</sup>4 clamshell gates, axial discharge, actuated in pairs

# Overview of wagon classes used in intermodal transport

| Wagons with two axles         |                      |                                 |                           |  |
|-------------------------------|----------------------|---------------------------------|---------------------------|--|
| UIC wagon classification code | DB-specific type no. | Length over buffers (LüP) in mm | Loading length (LL) in mm | Height of loading level above TOR (HL) in mm |
| Lgs                           | 579                  | 13640                           | 12300                     | 1180   |
| Lgs                           | 580                  | 14020                           | 12500                     | 1200   |
| Lgns                          | 581                  | 14020                           | 12500                     | 1210   |
| Lgns                          | 583                  | 13860                           | 12620                     | 1175   |

| Wagons with four axles        |                      |                                 |                           |  |
|-------------------------------|----------------------|---------------------------------|---------------------------|--|
| UIC wagon classification code | DB-specific type no. | Length over buffers (LüP) in mm | Loading length (LL) in mm | Height of loading level above TOR (HL) in mm |
| Rgs-w                         | 672                  | 19900                           | 18500                     | 1265   |
| Sgns                          | 681                  | 19740                           | 18400                     | 1155   |
| Sgns                          | 691                  | 19740                           | 18400                     | 1155   |
| Sgns                          | 692                  | 19640                           | 18400                     | 1155   |
| Sgns                          | 696                  | 19640                           | 18400                     | 1155   |
| Sgkkms(s)                     | 698                  | 19130                           | 15890                     | 845  |
| Sgjjkmms                      | 699                  | 16940                           | 14600                     | 1180   |
| Sgss                          | 703                  | 19740                           | 18400                     | 1190   |
| Sgns                          | 704                  | 19740                           | 18400                     | 1155   |
| Sgns                          | 705                  | 19740                           | 18400                     | 1155   |
| Sgjs                          | 712                  | 21000                           | 18400                     | 1180   |
| Sgmnss                        | 731                  | 17540                           | 16300                     | 1155   |
| Sgns                          | 735                  | 19640                           | 18400                     | 1155   |
| Sgjmms                        | 737                  | 16940                           | 14600                     | 1180   |
| Sgns                          | 748                  | 19640                           | 18400                     | 1170   |

| Load limit DB max.<br>(LG) in t | Tare weight<br>(EG) in kg | Special features |
|---------------------------------|---------------------------|------------------|
| 29.00                           | 10500 - 11500             |                  |
| 27.50                           | 12700                     |                  |
| 32.00                           | 12750                     |                  |
| 32.70                           | 12300                     |                  |

| Load limit DB max.<br>(LG) in t | Tare weight<br>(EG) in kg | Special features  |
|---------------------------------|---------------------------|---|
| 60.00                           | 24000                     |   |
| 70.00                           | 20000                     |   |
| 70.00                           | 20000                     |   |
| 70.00                           | 20000                     |   |
| 71.00                           | 18600                     |   |
| 46.00                           | 18000                     | Loading deck lowered to accommodate large-volume containers |
| 46.00                           | 18000                     | DB 100 km/h: 48.0 t load limits B, C                        |
| 50.00                           | 22000                     | High-speed wagon (max. speed: 140 km/h or 160 km/h)         |
| 70.00                           | 19700                     |   |
| 70.00                           | 19700                     |   |
| 56.50                           | 23400                     |   |
| 71.50                           | 18300                     |   |
| 70.00                           | 20000                     |   |
| 59.50                           | 20500                     |   |
| 61.00                           | 19000                     |   |

# Overview of wagon classes used in intermodal transport

| Wagons with six axles         |                      |                                 |                           |  |
|-------------------------------|----------------------|---------------------------------|---------------------------|--|
| UIC wagon classification code | DB-specific type no. | Length over buffers (LüP) in mm | Loading length (LL) in mm | Height of loading level above TOR (HL) in mm |
| Sggmrs                        | 714                  | 33940                           | 2x 16100                  | 1155   |
| Sggmrs                        | 715                  | 33940                           | 2x 16100                  | 1155   |
| Sdggmrs                       | 717                  | 34030                           | 2x 16350                  | 1155   |
| Sggrss                        | 733                  | 26700                           | 2x 12250                  | 1155   |
| Sggrss                        | 734                  | 26400                           | 2x 12250                  | 1170   |
| Sdggmrss                      | 736                  | 33940                           | 2x 15420                  | 1155   |
| Sdggmrs                       | 739                  | 33940                           | 2x 16100                  | 1155   |
| Sdggmrs                       | 744                  | 33940                           | 2x 16100                  | 1155   |
| Sggmrs                        | 747                  | 29590                           | 2x 13820                  | 1155   |
| Sggmrs                        | 749                  | 29590                           | 2x 13820                  | 1155   |
| Sggrss                        | 757                  | 26700                           | 2x 12250                  | 1155   |

| Pocket wagons (for semi-trailers) |                      |                                 |                           |  |
|-----------------------------------|----------------------|---------------------------------|---------------------------|--|
| UIC wagon classification code     | DB-specific type no. | Length over buffers (LüP) in mm | Loading length (LL) in mm | Height of loading level above TOR (HL) in mm |
| Sdgkms                            | 707                  | 16440                           | 15200                     | 1175/338                                     |
| Sdgmns                            | 743                  | 18340                           | 16425                     | 1175/270                                     |



| Load limit DB max.<br>(LG) in t | Tare weight<br>(EG) in kg | Special features   |
|---------------------------------|---------------------------|--|
| 104.00                          | 32000                     | as type 715, can be used up to speeds of 140 km/h                  |
| 104.00                          | 32000                     |  |
| 100.00                          | 35500                     | suitable for loading with “mega trailers”                          |
| 107.00                          | 28000                     |  |
| 109.00                          | 26000                     |  |
| 100.50                          | 34500                     |  |
| 102.00                          | 32900                     | as type 714, one half of the wagon is configured as a pocket wagon |
| 102.00                          | 32900                     | as type 715, one half of the wagon is configured as a pocket wagon |
| 106.00                          | 29500                     |  |
| 91.00                           | 29500                     |  |
| 107.00                          | 28000                     |  |

| Load limit DB max.<br>(LG) in t | Tare weight<br>(EG) in kg | Special features |
|---------------------------------|---------------------------|------------------|
| 37.00                           | 16000                     |                  |
| 69.00                           | 21000                     |                  |

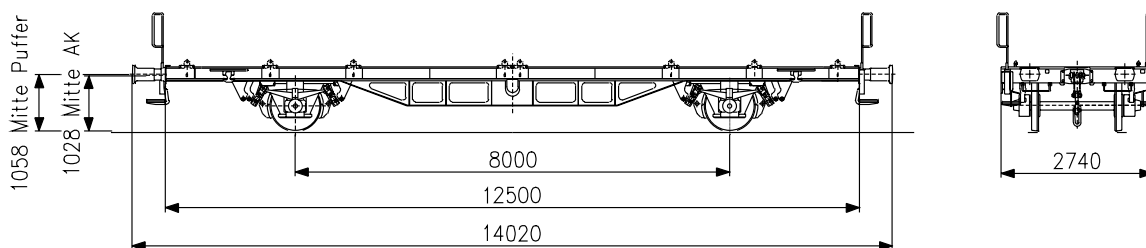
# Expertise in intermodal transport



**Lgs 580**

**Two-axle flat wagon for large containers and swap bodies Lgs 580**

|  |      |   |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
|--|------|---|------|----|---|---|--|---|------|------|------|----|-----|------|--|--|--|
| Length over buffers                                    | mm   | 14020   |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
| Loading length   | mm   | 12500   |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
| Distance between outer axles                           | mm   | 8000  |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
| Height of bed above TOR for containers and swap bodies | mm   | 1200  |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
| Tare weight  | t    | 12.7  |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
| Buffing and draw gear                                  |      | Split ring spring draw gear, type 540, High-performance buffer 590 kN, stroke: 105 mm, type: ring-spring  |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
| Minimum negotiable curve radius                        | m    | 75  |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
| Maximum speed  | km/h | 120   |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
| Load limits  | t    | <table border="1"> <tr> <td></td> <td>A</td> <td>B</td> <td>C</td> <td></td> </tr> <tr> <td>S</td> <td>19.5</td> <td>23.5</td> <td>27.5</td> <td>**</td> </tr> <tr> <td>120</td> <td colspan="3">0.00</td> <td></td> </tr> </table> |      | A  | B | C |  | S | 19.5 | 23.5 | 27.5 | ** | 120 | 0.00 |  |  |  |
|  | A    | B   | C    |    |   |   |  |   |      |      |      |    |     |      |  |  |  |
| S  | 19.5 | 23.5  | 27.5 | ** |   |   |  |   |      |      |      |    |     |      |  |  |  |
| 120  | 0.00 |   |      |    |   |   |  |   |      |      |      |    |     |      |  |  |  |



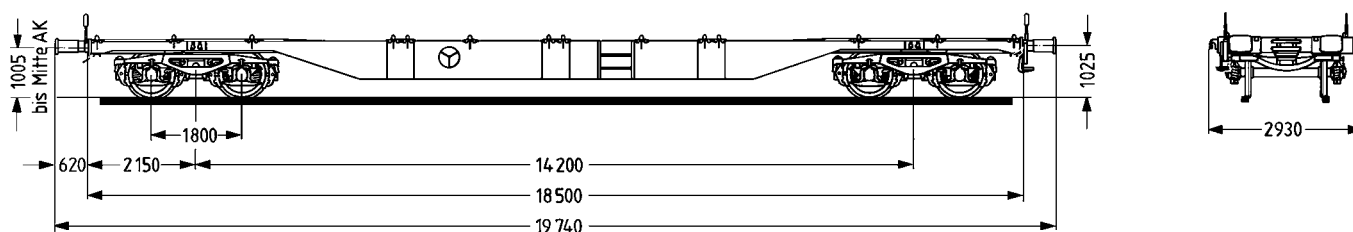


## Flat wagons for large containers and swap bodies

Sgns 691

Four-axle flat wagon for large containers and swap bodies Sgns 691

| Length over buffers                                    | mm   | 19740   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
|--|------|---|------|------|---|---|---|---|------|------|------|------|-----|------|--|--|--|----|----|---|-----|------|--|
| Loading length   | mm   | 18400   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| Distance between bogie pivots                          | mm   | 14200   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| Height of bed above TOR for containers and swap bodies | mm   | 1155  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| Tare weight  | t    | 20.0  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| Buffing and draw gear                                  |      | Split ring spring draw gear, type 540, High-performance buffer 590 kN, stroke: 105 mm, type: ring-spring  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| Minimum netotiable curve radius                        | m    | 75  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| Suitability for train-ferry operations                 |      | 2°  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| Maximum speed  | km/h | 120   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| Load limits  | t    | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>44.0</td> <td>52.0</td> <td>62.0</td> <td>70.0</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table><br><table border="1"> <thead> <tr> <th>DB</th> <th>CM</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>100</td> <td colspan="2">64.0</td> </tr> </tbody> </table> |      | A    | B | C | D | S | 44.0 | 52.0 | 62.0 | 70.0 | 120 | 0.00 |  |  |  | DB | CM | D | 100 | 64.0 |  |
|  | A    | B   | C    | D    |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| S  | 44.0 | 52.0  | 62.0 | 70.0 |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| 120  | 0.00 |   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| DB   | CM   | D   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |
| 100  | 64.0 |   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |    |    |   |     |      |  |



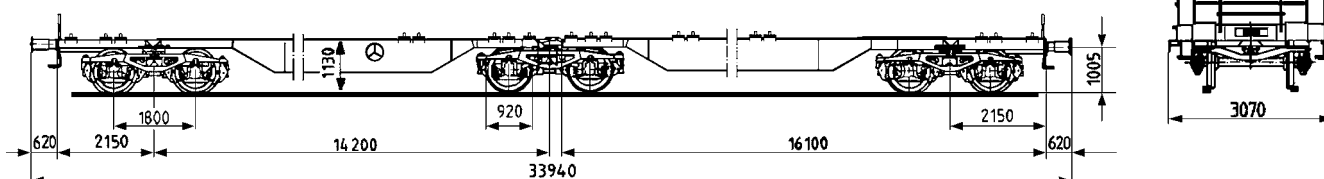
# Expertise in intermodal transport



**Flat wagons for large containers and swap bodies**

**Sggmrs 714/715**

| Six-axle articulated wagon Sggmrs 714/715              |      |  |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
|--|------|--|------|-------|-----|-----------------|---|--|--|---|------|------|------|-------|----|-----------------|-----|------|--|--|--|-----|------|
| Length over buffers                                    | mm   | 33940  |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Loading length   | mm   | 2x 16100   |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Distance between bogie pivots                          | mm   | 2x 14200   |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Height of bed above TOR for containers and swap bodies | mm   | 1155   |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Tare weight  | t    | 32,0   |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Buffing and draw gear                                  |      | Split ring spring draw gear, type 540, High-performance buffer 590 kN, stroke: 105 mm, type: ring-spring   |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Minimum negotiable curve radius                        | m    | 75   |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Suitability for ferry-train operations                 |      | 1° 30' for a curve radius of 120 m   |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Maximum speed  | km/h | Type 714: 140 km/h <sup>1)</sup><br>Type 715: 120 km/h   |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Load limits  | t    | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th colspan="2"></th> </tr> </thead> <tbody> <tr> <td>S</td> <td>65.0</td> <td>77.0</td> <td>89.0</td> <td>104.0</td> <td>DB</td> <td>C<sup>1)</sup></td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> <td>140</td> <td>90.0</td> </tr> </tbody> </table> |      | A     | B   | C               | D |  |  | S | 65.0 | 77.0 | 89.0 | 104.0 | DB | C <sup>1)</sup> | 120 | 0.00 |  |  |  | 140 | 90.0 |
|  | A    | B  | C    | D     |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| S  | 65.0 | 77.0   | 89.0 | 104.0 | DB  | C <sup>1)</sup> |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| 120  | 0.00 |  |      |       | 140 | 90.0            |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |
| Special features                                       |      | <sup>1)</sup> on lines with continuous ATC   |      |       |     |                 |   |  |  |   |      |      |      |       |    |                 |     |      |  |  |  |     |      |

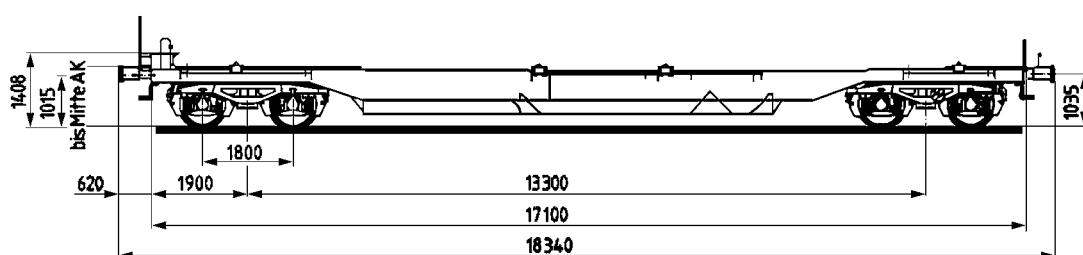


## Four-axle pocket wagon for piggyback traffic

Sdgmns 743

### Pocket wagon (for semi-trailers) Sdgmns 743

| Length over buffers                                    | mm   | 18340  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
|--|------|--|------|------|---|---|---|---|------|------|------|------|-----|------|--|--|--|
| Loading length   | mm   | 16425  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Distance between bogie pivots                          | mm   | 13300  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Height of bed above TOR for containers and swap bodies | mm   | 1175   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Height of pocket above TOR for semi-trailers           | mm   | 270  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Tare weight  | t    | 21.0   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Payload  | t    | 69.0   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Buffing and draw gear                                  |      | Split ring spring draw gear, type 540, High-performance buffer 590 kN, stroke: 105 mm, type: ring-spring   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Minimum negotiable curve radius                        | m    | 75   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Suitability for train-ferry operations                 |      | 2°   |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Maximum speed  | km/h | 120  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |
| Load limits  | t    | <table border="1"> <thead> <tr> <th></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>43.0</td> <td>51.0</td> <td>61.0</td> <td>69.0</td> </tr> <tr> <td>120</td> <td colspan="4">0.00</td> </tr> </tbody> </table> |      | A    | B | C | D | S | 43.0 | 51.0 | 61.0 | 69.0 | 120 | 0.00 |  |  |  |
|  | A    | B  | C    | D    |   |   |   |   |      |      |      |      |     |      |  |  |  |
| S  | 43.0 | 51.0   | 61.0 | 69.0 |   |   |   |   |      |      |      |      |     |      |  |  |  |
| 120  | 0.00 |  |      |      |   |   |   |   |      |      |      |      |     |      |  |  |  |



# Expertise in intermodal transport



**7.28 m curtain side container –  
7.82 m C.S. HTG**

| Loading units<br>(dimensions<br>and features) | Maximum<br>payload<br>(kg) | Max.<br>permissible total<br>weight (kg) | Inner dimensions |                          |       | Enclosed<br>volume<br>(m <sup>3</sup> ) | Outer dimensions (mm)    |                |       |                  |
|---|----------------------------|--|------------------|--------------------------|-------|---|--------------------------|----------------|-------|------------------|
|   |                            |  | Length           | Height<br>up to ... (mm) | Width |   | Length<br>up to ... (mm) | Height<br>(mm) | Width | Corner<br>height |
| Htg 7.15 m <sup>1)</sup>                      | 12700                      | 16000                                    | 7040             | 2300                     | 2440  | 38.5                                    | 7150                     | 2600           | 2500  | 2600             |
|   | 13200                      | 16000                                    | 7040             | 2450                     | 2448  | 43.0                                    | 7150                     | 2730           | 2550  | 2700             |
|   | 20300                      | 24000                                    | 7040             | 2300                     | 2440  | 38.5                                    | 7150                     | 2600           | 2500  | 2600             |
|   | 24990                      | 28600                                    | 7040             | 2296                     | 2440  | 38.5                                    | 7150                     | 2600           | 2500  | 2600             |
| Htg 7.82 m <sup>1)</sup>                      | 12800                      | 16000                                    | 7680             | 3000                     | 2480  | 57.0                                    | 7820                     | 3180           | 2550  | 3150             |
| 40' Box                                       | 26700                      | 30480                                    | 12000            | 2402                     | 2440  | 70.0                                    | 12192                    | 2600           | 2500  | 2600             |
| Htg 7.82 m <sup>1)</sup>                      | 11300                      | 16000                                    | 7670             | 3030                     | 2520  | 58.0                                    | 7820                     | 3290           | 2600  | 3290             |

<sup>1)</sup> Side of container can be opened over almost its entire length (folding side doors or side curtain)

<sup>2)</sup> Also available without end doors for beverage logistics

<sup>3)</sup> Max. gross weight of loading unit when set down on support legs: 16000 kg

**Loading units  
for intermodal  
transport**



**7.15 m swap body – Htg 7**

**40-foot box container – Htt 12**

| Profil | End door |       | Side door |       | No. of pallet spaces  |                              |                              | Support legs <sup>3)</sup> | Lashing rings | Features                |       |
|--------|----------|-------|-----------|-------|-----------------------|------------------------------|------------------------------|----------------------------|---------------|-------------------------|-------|
|        | Height   | Width | Height    | Width | 80 x 120 Euro pallets | 100 x 120 industrial pallets | 83.5 x 124 Mesh cage pallets |                            |               | Keyhole mounting panels | Other |
| C15    | 2152     | 2434  | 2207      | 6550  | 17                    | 14                           | 12*2                         | Yes                        | Yes           | No                      |       |
| C25    | 2450     | 2460  | 2450      | 6770  | 17                    | 14                           | 12*2                         | Yes                        | Yes           | No                      |       |
| C15    | 2207     | 2440  | 2207      | 6550  | 17                    | 14                           | 12*2                         | Yes                        | Yes           | No                      |       |
| C15    | 2210     | 2440  | 2202      | 6400  | 17                    | 14                           | 12*2                         | Yes                        | Yes           | No                      |       |
| C70    | 2900     | 2480  | 3000      | 7350  | 19                    | 14                           | 18*3                         | Yes                        | Yes           | No                      |       |
| C15    | 2290     | 2434  | 2330      | 2500  | 29                    | 22                           | 22*2                         | No                         | Yes           | No                      |       |
| C414   | 3030     | 2520  | 3030      | 7200  | 19                    | 14                           | 18*3                         | Yes                        | Yes           | No                      |       |

# DB Schenker BTT – Tank containers



Tank – Type 731



Standard tank – Type 224

DB Schenker BTT GmbH, a fully owned subsidiary of DB Mobility Logistics AG, organises national and international multimodal door-to-door shipments, mainly comprising liquid, pourable and gaseous products from the chemical and petrochemical industries.

DB Schenker BTT manages a broad portfolio of self-owned tank containers.

These containers come in a wide variety of capacities and differ in terms of the technical equipment required for transporting specific products.

For example, special containers in the Series 223, 224 and 731 are used for the temperature-controlled transport of certain products.

|                     |       |       | Special tank for MDI/TDI 223/224   |
|---------------------|-------|-------|------------------------------------|
| Dimensions          | LxBxH | mm    | 6058x2438x2591                     |
| Volumen             |       | Liter | 22500-24000                        |
| Tare weight         |       | kg    | ca. 3700                           |
| Max. gross weight   |       | kg    | 36000                              |
| No. of compartments |       |       | 1                                  |
| Outlet              |       |       | top only<br>ISOPA standard         |
| Heating             |       |       | steam or<br>water-glycol           |
| Special equipment   |       |       | Drying filter<br>Folding guardrail |

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**Internet: www.btt-gmbh.de**





**Special tank – Type 224**



**Silo tank – Type 350**

| Special tank  | Standard tank                              |  | Silo tank         |
|---|--|--|-------------------|
| 224   | 224/226                                    | 731  | 350               |
| 6058x2550x2670  | 6058x2438x2591                             | 7820x2550x2670                             | 9120x2550x2685    |
| 24000   | 24000-26000                                | 29500-35000                                | 50000             |
| ca. 3900  | ca. 3700                                   | ca. 4100                                   | ca. 3300          |
| 36000   | 36000                                      | 36000                                      | 34000             |
| 1   | 1  | 1 und 3                                    | 1                 |
| bottom<br>3" TW coupling                                      | bottom<br>3" BSP                           | bottom<br>3" BSP                           | bottom            |
| water-glycol  | steam<br>water-glycol (optional)           | steam<br>water-glycol (optional)           | None              |
| In-transit heating<br>Special insulation<br>Folding guardrail | Riser pipe (optional)<br>Folding guardrail | Riser pipe (optional)<br>Folding guardrail | Folding guardrail |

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