

Scope of ApplicationAll members of the DB group ☐Only below mentioned members ☒*DELLNER BUBENZER Germany GmbH &
DELLNER BUBENZER Germany Wind GmbH*

DELLNER BUBENZER

PACKAGING REGULATION

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1 General

The choice of packaging can have an impact on product quality and must therefore be reviewed by the supplier during the manufacturability evaluation and before submitting a quotation.

2 Terms and abbreviations

DB DELLNER BUBENZER
PR Packaging Regulation

3 Sample order

The PR is part of the initial sample phase. In case of a sample order, a packaging proposal must be submitted to the DB purchase department in advance. In addition, pictures of the goods including packaging must be taken and sent to the DB purchase department before shipment.

4 Item-specific packaging instructions

In some cases, there are article-specific packaging instructions in addition to this PR. These will be distributed separately by e-mail when the order is placed. If no article-specific packaging instructions are communicated with the order, this PR shall be valid.

5 Choice of packaging

In coordination with DB, the supplier shall select and use suitable packaging for deliveries which ensures that the goods arrive at DB free of damage while considering the various transport methods and routes and the avoidance of quality risks due to environmental influences.

Furthermore, the supplier shall, in coordination with DB, select packaging in such a way that environmental influences do not lead to impairment of the delivered material during storage.

The supplier is responsible for packaging suitable for transport and handling, which ensures damage-free and, if necessary, corrosion-free delivery to the place of consumption. Deviations from this PR, e.g. due to special product geometry, must be approved by DB Quality Assurance prior to shipment.

Incoming deliveries are checked by DB with regard to compliance with the PR on receipt of the goods. If deliveries are made contrary to the PR, this will be notified to the supplier. Expenses - of whatever kind - arising from non-observance of the PR can be charged to the supplier.

The supplier shall ensure that the packaging is selected in accordance with the delivery material. The following must always be observed:

- Damage-free delivery must be guaranteed.
- The material must be protected against moisture (corrosion protection agents must be coordinated with DB).

- The packaging must be selected in such a way that storage for at least 24 months can take place in a covered outdoor storage area without any problems.
- Care should be taken to avoid unnecessary waste.
- Individual packages in load carriers such as Euro pallets and box pallets must be secured against slipping and damage.
- Electrical and electronic components must be protected against electrostatic discharge (ESD).
- Parts made of rubber materials must be protected from negative factors such as heat, light, ozone, oxygen, moisture, mechanical forces and contamination (e.g. by oils or solvents).
- Raw castings and forgings in the unfinished state should preferably be packed in box pallets, wooden crates, or wrapped in corrugated cardboard on Euro or disposable pallets.
- Contact protection is mandatory for machined cast or forged parts. The selection of a suitable contact protection - depending on the weight, size and material of the parts - is to be made by the supplier himself.
- To avoid surface damage, painted parts must not touch each other or come into contact with other hard objects. The most important requirement for the packaging of painted parts is to ensure contact protection. Furthermore, painted parts may only be packed in a dry state; parts and inner packaging must be protected against moisture.

Information on the delivery condition of Euro pallets and box pallets is available at

<http://www.epal-pallets.de>

DB expects all suppliers to comply with the exchange criteria of the mentioned transport material. In case of individually agreed packaging, the criteria from this instruction also apply.

If a packaging has been defined, the supplier is requested to check the packaging - if the quality requirements are met - with regard to a possible cost reduction and to inform DB of any potential that may exist. As a rule, a lower environmental impact can also be achieved in the process. Cost-reducing measures are to be coordinated with DB and implemented as quickly as possible.

6 Labelling of packages by the supplier

Each package and packaging unit must be durably labelled with at least the following information (visible from the outside):

- DB article number
- DB article description
- quantity
- unit of quantity
- supplier number

The labeling of the packages and packaging units must enable clear assignment of the goods. No different parts may be packed and delivered in the same packaging without an obvious and unambiguous separation.

Example:

Article number	8-520.01
Article description	Cover SF 24
Quantity	50 pcs.
Supplier number	8184848

7 Deviations

The specifications and requirements described in this PR apply to each delivery. Deviations from this are to be agreed with DB in written form in advance of the respective delivery of goods.

DB may carry out spot checks with regard to compliance with this PR. If deviations are detected without a corresponding prior agreement, the supplier shall receive a written or verbal complaint from DB. With this the supplier is requested to work out adequate corrective measures, to communicate these to DB without delay and to implement them immediately after release by DB.

In the event of identified, non-agreed deviations from the requirements, DB also reserves the right to refuse acceptance of the goods altogether.

The Supplier shall be invoiced for any costs incurred due to the non-observance of this PR as a result of relocation, sorting and the like.

8 IPPC requirements

Solid wood packaging materials must be handled and labelled in accordance with IPPC (International Plant Protection Convention). IPPC labelling requires the following information:



Links: IPPC Symbol (stilisierte Ähre)
 DE: Länderkennung nach ISO 3166 (DE für Deutschland)
 NW1: Kennung der Region
 49512: amtliche Registriernummer
 HT: Behandlungsart (Heat Treatment - Hitzebehandelt)

9 Weight

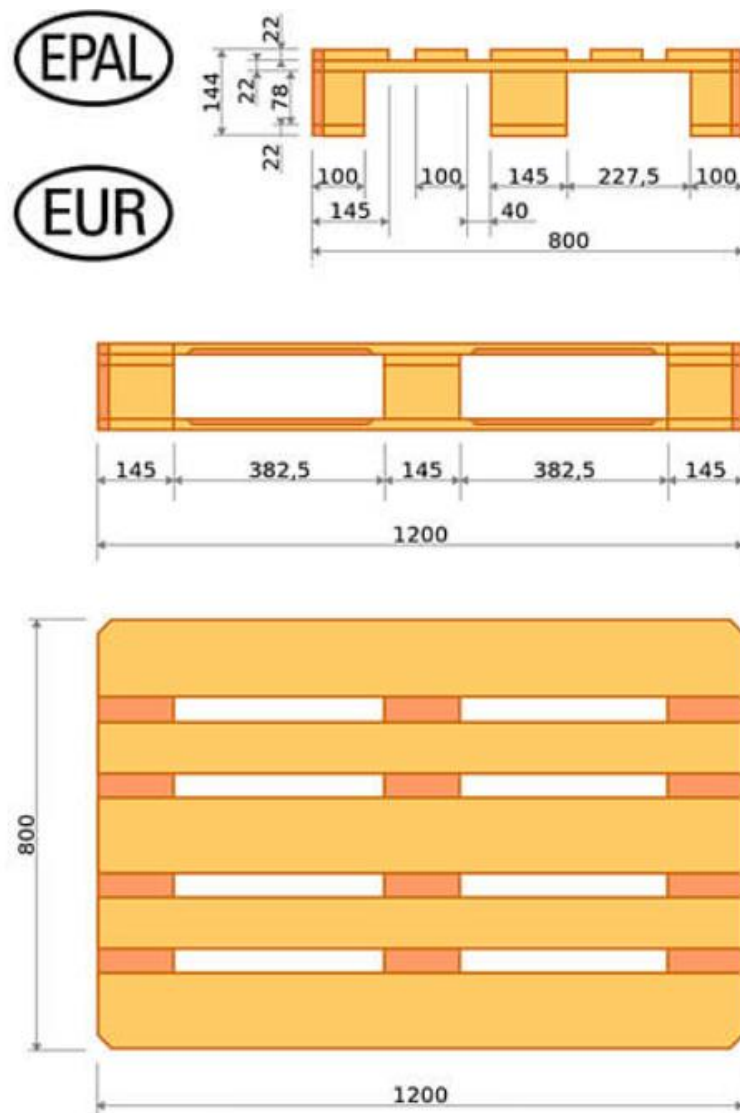
The weight of each individual package (Euro pallet, one-way pallet, mesh box and overseas box) must not exceed the following values:

- For orders from DELLNER BUBENZER Germany GmbH: 1,500 kg
- For orders from DELLNER BUBENZER Germany Wind GmbH: 1,000 kg

If packages exceed the above weight limits, an exception must be obtained from DB Purchasing.

10 Packing dimensions euro pallets

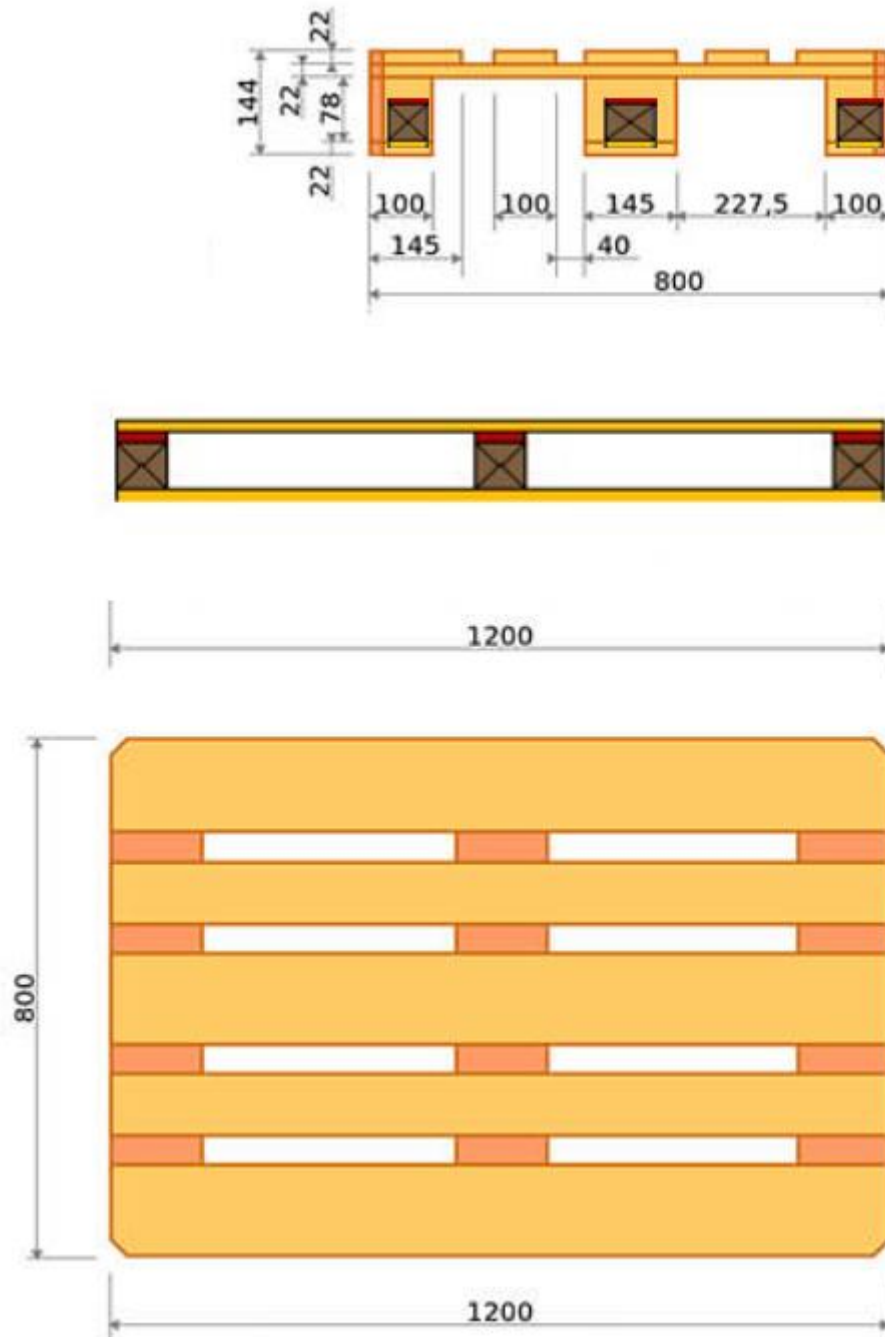
If your pallets differ from the packaging specified by DB, please contact the purchaser responsible for you. Half-pallets are prohibited!



11 Packing dimensions disposable pallets

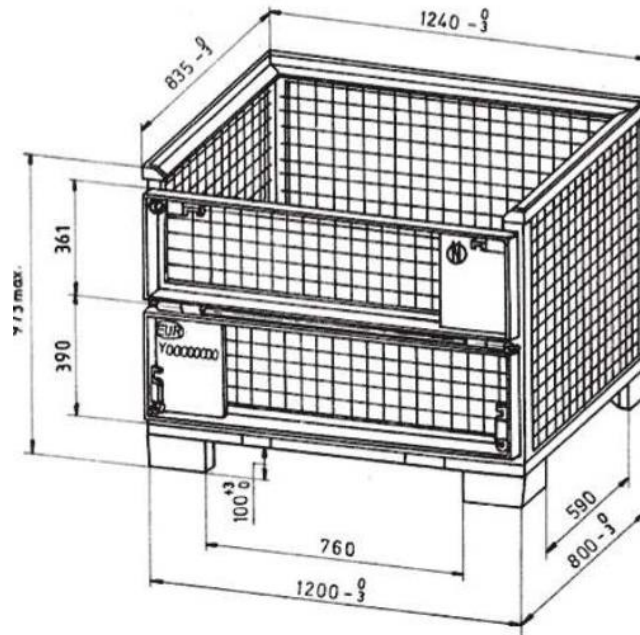
Disposable pallets should be similar to the dimensions of the Euro pallet. If your disposable pallets differ from the packaging specified by DB, please contact the purchaser responsible for you.

The supplier must use the following dimensions as a guide:



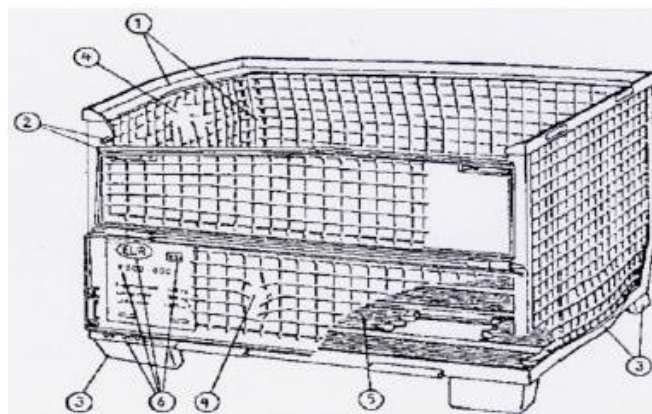
12 Packing dimensions box pallets

If your box pallets differ from the packaging specified by DB, please contact the purchaser responsible for you.



Box pallets are not fit for use or exchange if they have one or more of the following defects:

- 1 Deformation of the stacking frame or corner pillar.
- 2 Immovable or non-closable front wall flaps
- 3 Bent feet or bent base frame (no longer stackable)
- 4 Cracked wire mesh
- 5 Missing or broken bottom board
- 6 Missing marking: essential markings are missing or illegible (manufacturer's name and registered office or manufacturer's codes and year of manufacture)



13 Packing dimensions overseas packing

In case of packaging for sea or air transport, packaging units designed by the supplier may be selected if pallets or box pallets are not an option (e.g. due to corrosion protection). These must be wooden crates. Under no circumstances may the following dimensions be exceeded or fallen short of:

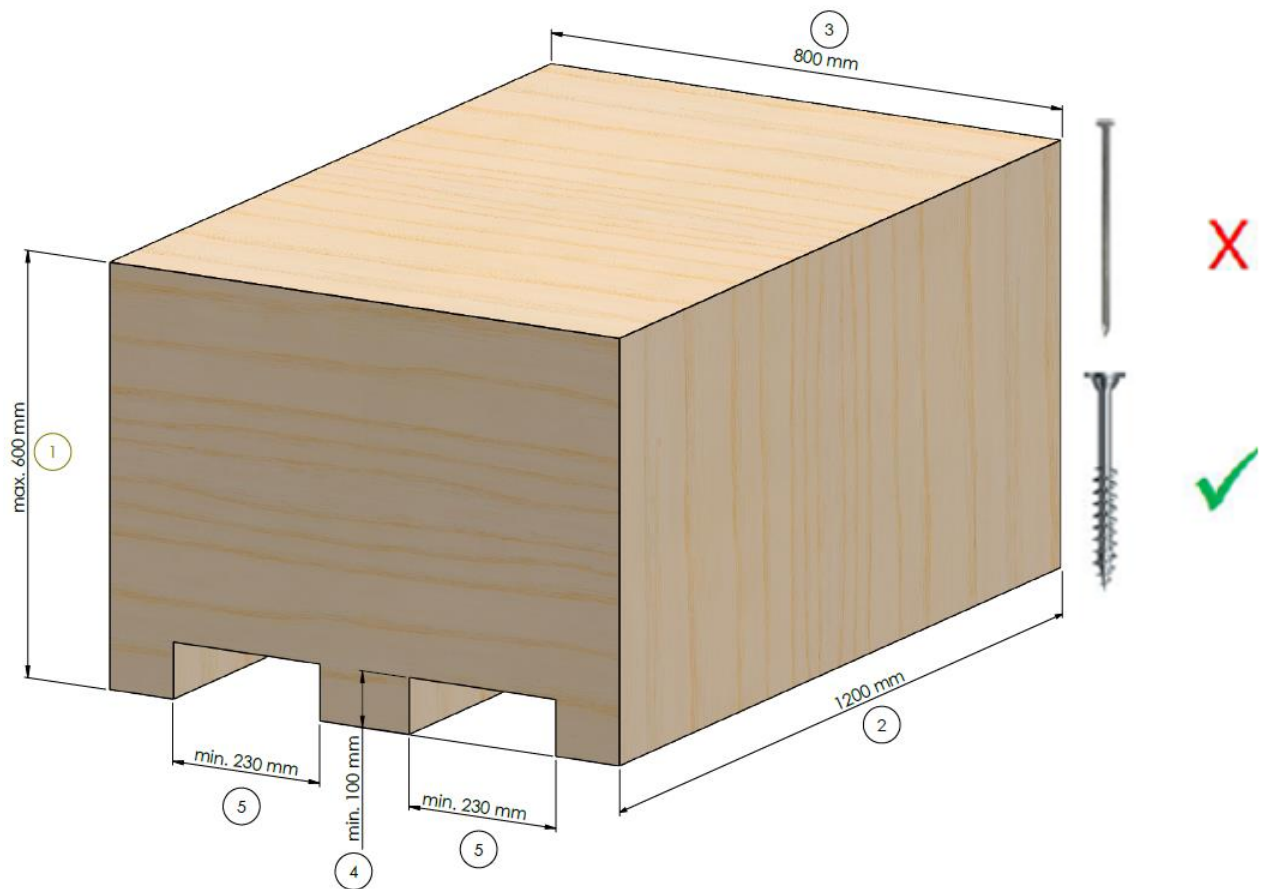
1. Height: max. 600 mm
2. Length: fixed. 1200 mm
3. Width: fixed. 800 mm

To ensure proper transport by forklift truck or pallet truck, the panel support must suit the forks:

4. Height: min. 100 mm
5. Width: min. 230 mm

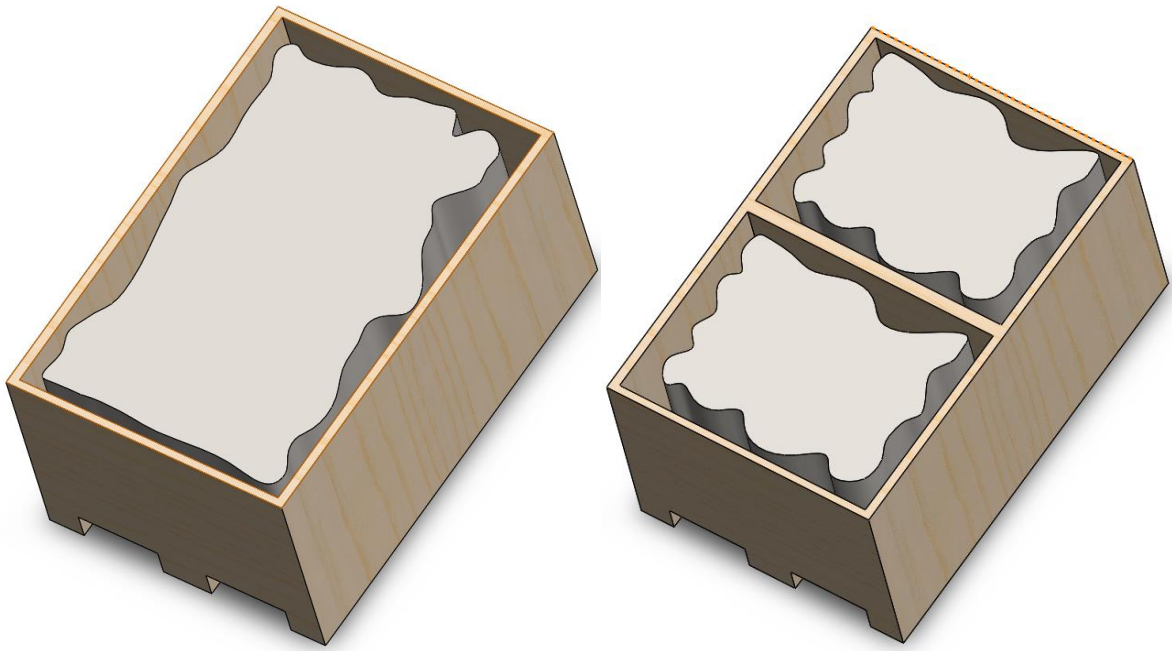
It is also necessary to make sure that the wooden boxes are fastened with standard screws and not nails.

If your disposable packaging differs from the packaging specified by DB, please contact the purchaser responsible for you.



13.1 Sorting the goods into overseas packaging

For deliveries with several items in one overseas carton, please ensure that they are packed according to type. Each consignment must be packed in a separate unit. A maximum of two different consignments may be packed in one overseas carton (e.g. with a partition in the middle). Under no circumstances may several items be stacked on top of each other. The article number and quantity must be noted on the respective overseas cartons (e.g. with a sticker or waterproof pen).



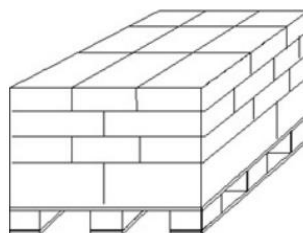
14 Instruction for container loads

14.1 Basics

In order to allow proper stowage and securing in the container, the cargo has to meet the following requirements.

14.2 General requirements

The dimensions should be as close as possible to the packaging module and the container loading area dimensions.

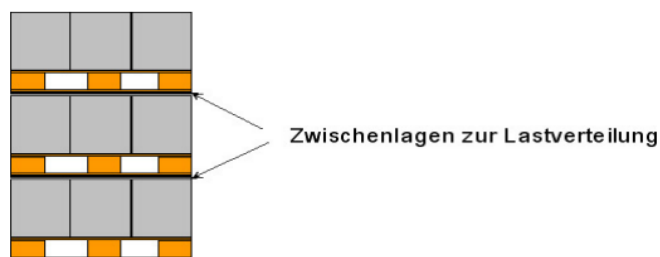


14.3 Stackability

The load should provide a stable and pressure-resistant surface to allow stacking of the required number of layers.

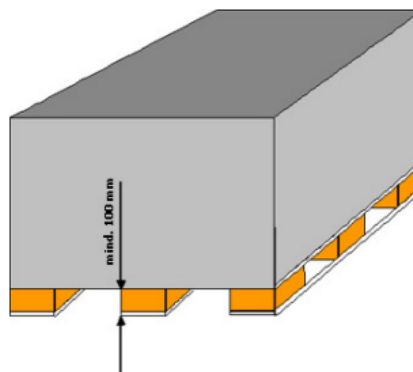


When stacking loaded pallets on top of each other, it may be advisable to use intermediate layers to distribute the load. The maximum weight specified in section 9 must not be exceeded.



14.4 Underride capability

It should be possible to drive under the load with a pallet truck, forklift truck or similar. For this purpose, a height of at least 100 mm must be ensured.





14.5 Stowage


It is essential that it is possible to drive under the cargo from the door side of the container, as shown in the left-hand picture below.



In the right-hand picture below, the packages (crates) are stowed crosswise; here it is not possible to drive under these packages with the lift truck from the door side, and lifting is therefore also not possible.







15 Practical examples



Correct	Wrong
	
<p>Correct:</p> <p>The dimensions of the pallet/disposable pallet, box pallet or crate must match the dimensions in items 9, 10, 11 or 12 to ensure transport by forklift or pallet truck.</p> <p>Height: min. 100 mm Width: min. 230 mm</p>	<p>Wrong:</p> <p>Non-compliance of dimensions on the box and therefore transport is not possible.</p>



Correct	Wrong
	
<p>Correct:</p> <p>In case of deliveries with several articles on one pallet, care must be taken to ensure that they are packed according to type. Each article must be packed in a separate unit (e.g. cardboard box). Under no circumstances may several articles be packed in one unit. The article number and the quantity must be marked on the respective units (e.g. by stickers or waterproof pen).</p>	<p>Wrong:</p> <p>Several articles are stacked on top of each other; the marking of the article number and number of pieces is loose, can be lost and is difficult to assign.</p>

Correct	Wrong
	
<p>Correct:</p> <p>Articles with fits must be packed in protective nets and in an orderly manner.</p>	<p>Wrong:</p> <p>Articles with fits disordered with other articles in a half-pallet.</p>

Correct	Wrong
	
<p>Correct:</p> <p>The items are to be delivered without bubble wrap. The items in the pallet/box must be packed in a corrosion-resistant manner, e.g. using a large VCI bag.</p>	<p>Wrong:</p> <p>Items are packed with bubble wrap. Each item must be unpacked individually; there is a lot of waste.</p>

Correct	Wrong
	
<p>Correct:</p> <p>The articles are packed by type.</p>	<p>Wrong:</p> <p>The articles are not packed by type. They need to be repacked. Please make sure that parts delivered in VCI are not separated with wood or cardboard: Moisture storage!</p>

Correct	Wrong
	
<p>Correct:</p> <p>Large castings are to be delivered in an orderly manner (safe for transport) and with intermediate bottoms in a large VCI bag.</p>	<p>Wrong:</p> <p>The items have been placed in the box pallet in an unordered manner; damage in transit may occur.</p>

Correct	Wrong
	
<p>Correct:</p> <p>The articles should be arranged in an orderly manner and secured against slipping. Intermediate shelves and a VCI bag should be used.</p>	<p>Wrong:</p> <p>Items have been placed in the pallet in an un-ordered manner; damage may occur in transit.</p>

Correct	Wrong
	
<p>Correct:</p> <p>The items should be packed on Euro pallets with frames or in boxes that meet the dimensions and requirements of a Euro pallet.</p>	<p>Wrong:</p> <p>Defective pallets and boxes that do not meet the pallet requirements cannot be stored and must be repacked.</p>

16 Labeling of the packaging for special releases

If a special release has been granted, the goods must be specially labelled. For this purpose, the completed form "Supplier Deviation Request" approved by DB is required. It must be clearly visible on the delivery bill and the package. The application can be downloaded from

<https://www.dellnerbubenzner.com/downloads/certifications/supplier-documents/dellner-bubenzner-germany-supplier-deviation-request.pdf>

Deliveries which are not correctly marked and contain deviating parts will be rejected and returned at the expense of the supplier.

13.12.2022

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*Scope of application*All members of the group ☐Only below mentioned companies ☒

DB Germany, DB Germany Wind, DB Poland, DB India, DB Wind Beijing

DELLNER BUBENZER

SUPPLIER DEVIATION REQUEST (SDR)

Please fill out this PDF electronically and email it to the group member responsible for you:

- Select responsible company -

Supplier details

Name of supplier:	
Address:	
Email:	

Order and product details

Item No.:	
Item description:	
Drawing index:	
Order no.:	
Order quantity:	

Detailed description of deviation

If available, insert images on last page.

Affected quantity:

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Cause of deviation

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17 Packaging with VCI (Volatile Corrosion Inhibitor)

The following guidelines and application notes apply to all parts which must be packed in VCI in accordance with the ordering and delivery instructions:

- The packaging must be selected in such a way that the VCI film is not damaged during packing, storage and transport; otherwise, effective corrosion protection cannot be achieved.
- The components must be cooled to room/ambient temperature, dry, and free of grease and oil residues when packed in VCI film.
- If it is not completely used up at the end of the packaging process, the packaging of the VCI packaging material must be sealed after the end of the shift.
- Avoid touching rust-sensitive metal parts with the unprotected hand; gloves must be worn.
- If after cleaning the component is touched without gloves, the component must be cleaned immediately with a suitable grease solvent and packed in a new VCI film.
- The distance between the VCI material and the metal should not exceed 30 cm, depending on the application. Additional VCI material must be used for larger goods.
- All parts must be packed in VCI film and sealed with adhesive tape so that an effective protective atmosphere can form.









18 Corrosion inhibitors (overseas)

The following corrosion inhibitors are approved for overseas transportation:

- ZERUST® Axxanol™ A35CD-7 from Northern Technologies International Corp
- ZERUST® Axxanol™ A35CD-32 from Northern Technologies International Corp
- RPO15A from Landnok Chemical (Ghangzhou) Co, Ltd.

For all other corrosion inhibitors, separate approval must be obtained from DELLNER BUBENZER.

19 Examples for packaging

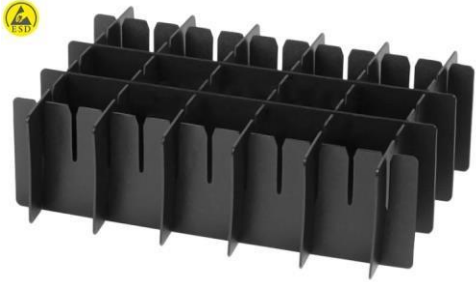
Examples for packaging of large parts or their outer packaging	
	
Euro pallet	Reusable pallet frames, IPPC stamped
	
Pallet lid	Intermediate pallet bottom (plastic)
	
Disposable pallet	Box pallet

Examples for packaging of small parts or their outer packaging (on pallets)	
	
VCI bag	Surface protection mesh for fits
	
Plastic box	Screw packaging
	
Cardboard boxes	

Examples for packaging of electronic parts or their outer packaging (on pallets)



VCI bags



ESD compartments



ESD box



ESD trays



Cardboard boxes