


Packaging provisions

General:

For the delivery of assembly groups, certain steps apply. This applies in particular to assembly groups which are delivered not only by trucks.

- All wooden parts must be treated acc. to the provisions for export ISPM 15 standard (the stamp must be visible on the wood).

Packaging provisions	 KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg
Observe proprietary note acc. to DIN 16016	
Change index: H	Replacement for:
signed: 09.06.22 Jens Burmester	Drawing No.: DAT-0006
checked: 13.06.22 Carsten Grebien	


Requirements for EURO pallets & wooden boxes

The pallets must meet the quality requirements of the "European Pallet Association e. V. (EPAL)" and must have the following two brands on the long side.

- The left and right block of the pallet must be marked EPAL in oval outline.
- The middle block must be marked as follows:
 - Company trademark with border e.g. "DB" for Deutsche Bahn AG
 - Country of manufacture e.g. "DE" for Germany
 - Quality inspection clamp (under the DE) and repair nail if necessary (if the pallet has already been repaired)
 - Numbers: Number of the manufacturer - Year of manufacture - Month of manufacture
 - IPPC marking for pest-free wood (important for export)


The wood of both pallets and boxes must be treated in accordance with ISPM 15 (IPPC standard) and marked accordingly. Damaged pallets and cases are not allowed. Damage includes:

- chipping on bottom or lid edge boards / blocks
- Breaking the boards crosswise or diagonally
- rotten boards/ blocks
- Illegal repair/ unacceptable components (e.g. too small boards or blocks)

Packaging provisions	 KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg
Observe proprietary note acc. to DIN 16016	
Change index: H	Replacement for:
signed: 09.06.22 Jens Burmester	Drawing No.: DAT-0006
checked: 13.06.22 Carsten Grebien	

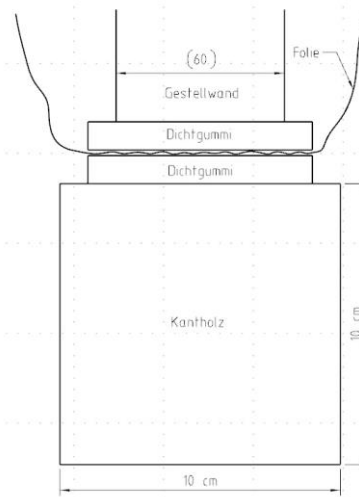
Corrosion protection for unprotected parts / surfaces


- The supplier must specify the type and design of the corrosion protection.
- The corrosion protection must be suitable for alternate transport by truck and subsequent loading into containers for global ocean freight. This affects the supplier's components with metallic surfaces that are not intended for final painting.
- KROENERT drawing parts are to be treated in accordance with DAT-0003.

Packaging provisions	 KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg
Observe proprietary note acc. to DIN 16016	
Change index: H	Replacement for:
signed: 09.06.22 Jens Burmester	Drawing No.: DAT-0006
checked: 13.06.22 Carsten Grebien	

Packaging provisions for assembly groups


- The assembly group is positioned on square timber 10x10 cm and fastened with bolts
- The assembly group is wrapped in a PE shrink film and welded air-tight.
 - In the area of the bolt connections to the squares, sealing rubbers shall be provided (see sketch below)
 - In the area of the eye bolts, PE-cloth shall be provided for transport which can be welded in the container after stowing
 - Within the packaging, sufficient drying agent for a storage time of 3 months shall be inserted (acc. to DIN 55474). The desiccant shall be attached in the upper section of the packaging whereby no direct contact to the assembly group is permitted (corrosion!)



<p>Packaging provisions</p>	 <p>KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg</p>
<p>Observe proprietary note acc. to DIN 16016</p>	
<p>Change index: H</p>	<p>Replacement for:</p>
<p>signed: 09.06.22 Jens Burmester</p>	<p>Drawing No.: DAT-0006</p>
<p>checked: 13.06.22 Carsten Grebien</p>	

- Mechanical protection
 - The length of the squares is selected so that they protrude at least 50 mm over the outermost shape of the assembly group
 - Cooling rollers and outer guide rollers shall be secured with a protective sleeve with fins
 - All inner guide rollers shall be secured by an inner layer of paper and an outer layer of bubble wrap
 - Sharp edges and corners shall be padded sufficiently (e.g. bubble wrap) to prevent damage to the protective PE film and the part
 - Adhesive tape must not be attached directly on machine parts

- Marking
 - The marking shall be done individually and order-related (e.g. commission number, article/assembly group number, ...)

Packaging provisions	 KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg
Observe proprietary note acc. to DIN 16016	
Change index: H	Replacement for:
signed: 09.06.22 Jens Burmester	Drawing No.: DAT-0006
checked: 13.06.22 Carsten Grebien	

Packaging introductions for rollers

• **Functional rollers**

- chrome rollers
- stainless steel rollers
- vacuum rollers
- rubber rollers
- teflon coated rollers
- ceramic coated rollers
- hard coated rollers
- all other not listed coated rollers

The following procedure should be followed when packing:

- **1 layer paper or corrugated cardboard** (for separating airbubble film and roller)
- **1 layer airbubble film** (prevent friction between Lamiflex and roller surface)
- **1 layer Lamiflex** (protects the roller against mechanical influences)

• **Anilox rollers**


- **1 layer paper** (no corrugated cardboard) or **felt** (for separating airbubble film and roller)
- **1 layer airbubble film** (to avoid condensation water)
- **1 layer Lamiflex**, taped with KROENERT tape (according to internal control from KROENERT, protects the roller against mechanical influences)

Note KROENERT-internal: The Lamiflex is bonded with KROENERT adhesive tape after in-house inspection.

• **Other rollers**

- guide rollers
- **1 layer paper or corrugated cardboard** (for separating airbubble film and roller)
- **1 layer airbubble film** (protects the roller against mechanical influences)

- When a roller is mounted in an assembly group close to the edge of a frame or looks outside the frame, then this roller must also be packed according to the “functional roller” scheme.

<p>Packaging provisions</p>	 <p>KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg</p>
<p>Observe proprietary note acc. to DIN 16016</p>	
<p>Change index: H</p>	<p>Replacement for:</p>
<p>signed: 09.06.22 Jens Burmester</p>	<p>Drawing No.: DAT-0006</p>
<p>checked: 13.06.22 Carsten Grebien</p>	

- **General procedure for the packaging of rollers**

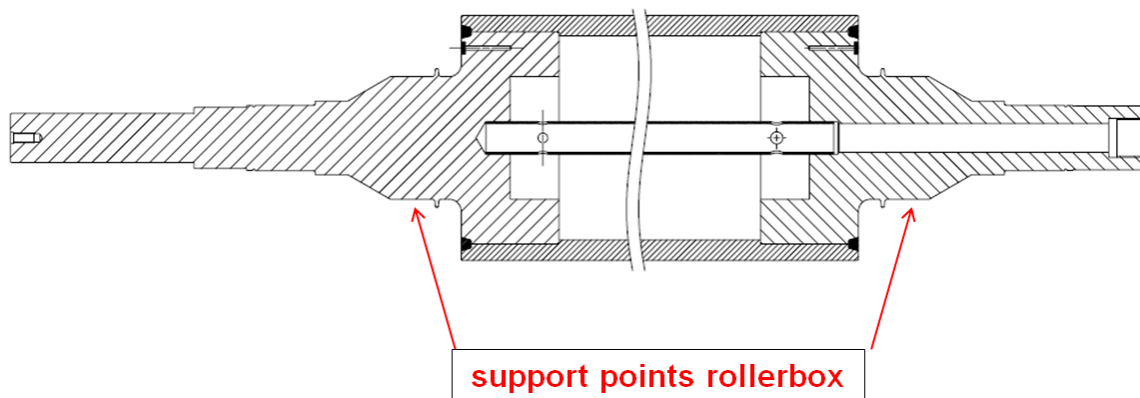
Paper should be layed as a single layer in a way that the ends overlap radially at least 40mm. This overlap is necessary to protect the roller against too strong adhesive tapes.

For the fixing an adhesive tape should be used, which can be released without damaging the paper.


Airbubble film and Lamiflex have to be handled like paper.

For **Lamiflex a moisture resistant adhesive tape** is to be used.

- No tape on the roller surface!
- When packing the rollers in boxes, the support points near the roller body must be used. The rollers should not be laid on the roller body or bearing seats.
- The marking is to be carried out individuals and order-related (for example order number, item/ module number, customer rules, etc.)
- **The rollers may only be packed in absolutely dry condition!** After wet tests, ensure sufficient drying (especially with ceramic coatings).



example support points


Packaging provisions	 KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg
Observe proprietary note acc. to DIN 16016	
Change index: H	Replacement for:
signed: 09.06.22 Jens Burmester	Drawing No.: DAT-0006
checked: 13.06.22 Carsten Grebien	

Packing of guide rollers in boxes

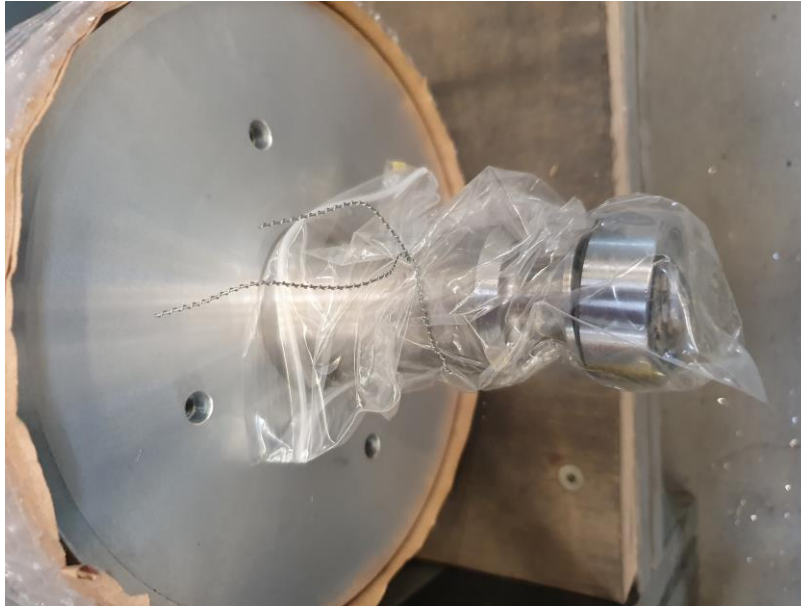
- Deviating from the normal procedure for packing guide rollers, only corrugated cardboard can be used when packing the guide rollers in boxes.
- The guide rollers must be packed well secured in boxes, ensuring that the rollers are secured against movement within the box.
- The delivery should be made by article and **per order and commission**, up to 20 rollers may be present in one box. For better space utilization, several complete article packages from different modules may also be packed in one box.
- Seaworthy packing (in addition to normal packing):
The guide rollers are to be shrink-wrapped in the box completely with PE shrink film, a sufficient drying agent is to be added for a storage period of 3 months according to DIN 55474.



example guide rollers in box


Packaging provisions	 <p style="margin: 0;">KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg</p>
Observe proprietary note acc. to DIN 16016	
Change index: H	Replacement for:
signed: 09.06.22 Jens Burmester	Drawing No.: DAT-0006
checked: 13.06.22 Carsten Grebien	

- Guide rollers with pre-mounted and pre-greased roller bearings must be protected against dirt with a plastic bag (no paper or aluminum). The plastic bag must be secured with a cable tie or a thin wire (max. 0.6mm, danger of injury).




Example protection of the roller bearing

- If the rollers are sent directly to the customer/packer, the roller boxes must also be written with the corresponding numbering according to the roller scheme.

Packaging provisions	 <p>KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg</p>
Observe proprietary note acc. to DIN 16016	
Change index: H	Replacement for:
signed: 09.06.22 Jens Burmester	Drawing No.: DAT-0006
checked: 13.06.22 Carsten Grebien	

Packing of machine frames and operating platforms

- All connecting elements must be packed bundled on a pallet.
- Before packing, clarify with KROENERT whether the final transport will be by truck or container.
- For transport by truck, all pairs of support columns and pairs of beams up to a width of 2400 mm must be delivered pre-assembled and aligned.
- For container transport, all pairs of uprights and beams up to a width of 2300mm must be delivered pre-assembled and aligned.

Packaging provisions	 KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg
Observe proprietary note acc. to DIN 16016	
Change index: H	Replacement for:
signed: 09.06.22 Jens Burmester	Drawing No.: DAT-0006
checked: 13.06.22 Carsten Grebien	


Packaging introductions for control cabinets

For the packaging of the control cabinets, we differ in packaging for truck and container transport. Depending on the type of switching cabinet (500 or 600 depth), the specified pallets should be used (see appendix). The following procedures must be followed:

- Truck-Transport
 - The control cabinets must be wrapped in **air bubble film** to protect them from mechanical damage.
 - Then they have to be wrapped with **stretch film**. This protects the control cabinets against influences and fixes the air bubble film.
 - The lashing is done with **polyester strapping tape** (25mm wide) 1x horizontal and 2x vertical (see picture control cabinet on pallet)

The following things have to be noted when stowing on the truck:

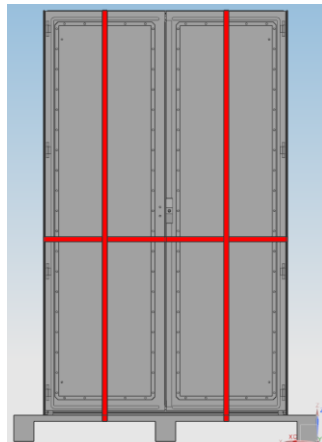
- The sideboards must be provided with at least 3 slats > 300mm
- The control cabinets must be positioned with a positive fit from the side wall to the side wall and the loading gaps must be filled up
- The control cabinets are to be positioned in a form-fitting manner starting at the front side, the rear end is made by at least 2 crossbeams
- If the front side is occupied by combined charges, the front side must also be occupied by at least 2 crossbeams
- The switch cabinets are to be lashed with tensioning straps, preferably with a support board on the top with the loading area. Here it must be ensured that the vertical alignment of the tension belts must be perpendicular to the cargo bed.

<p>Packaging provisions</p>	 <p>KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg</p>
<p>Observe proprietary note acc. to DIN 16016</p>	
<p>Change index: H</p>	<p>Replacement for:</p>
<p>signed: 09.06.22 Jens Burmester</p>	<p>Drawing No.: DAT-0006</p>
<p>checked: 13.06.22 Carsten Grebien</p>	


- Oversea-transport in the container
 - Within the packaging, **sufficient drying agent** for a storage time of 3 months shall be inserted (acc. to DIN 55474).
 - The control cabinets must be wrapped in **air bubble film** to protect them against mechanical damage.
 - Then they are shrink wrapped completely with a **PE shrink film** (protection against external influences)
 - The lashing must be done with **polyester strapping tape** (25mm wide) 1x horizontal and 2x vertical (see picture control cabinet on pallet)

The following things have to be noted when stowing in a container:

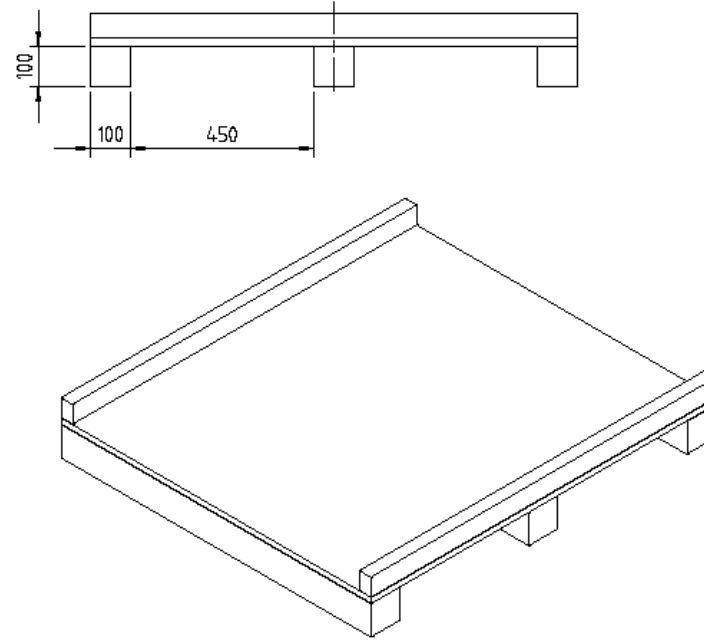
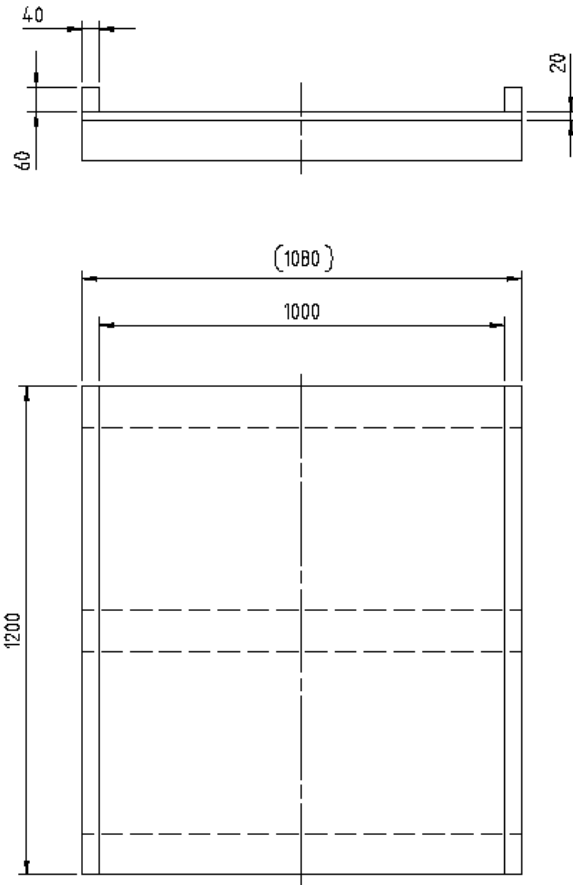
- The control cabinets must be positioned with a positive fit from the side wall to the side wall, and the loading gaps must be filled up
- The control cabinets are to be positioned in a form-fitting manner beginning at the front side, the rear end is made by cross lashing
- If the front side is occupied by combined charges, the front side must also be secured by cross lashing
- The switch cabinets are to be lashed with tensioning straps, preferably with a support board on the top with the loading area. Here it must be ensured that the vertical alignment of the tension belts must be perpendicular to the cargo bed.



picture control cabinet on pallet

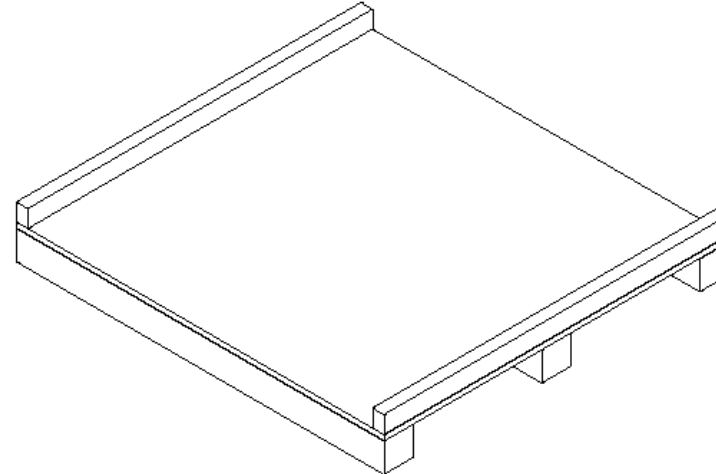
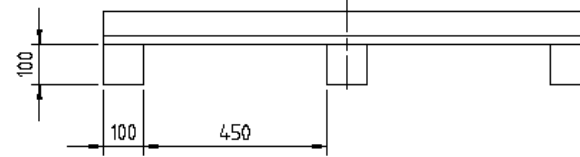
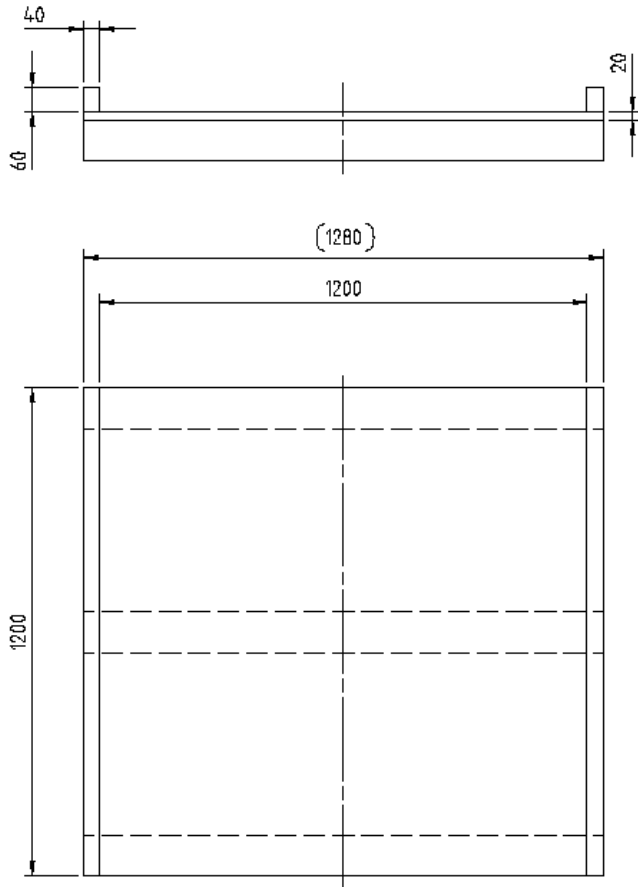
Packaging provisions	 KROENERT GmbH & Co. KG Schützenstraße 105, 22761 Hamburg
Observe proprietary note acc. to DIN 16016	
Change index: H	Replacement for:
signed: 09.06.22 Jens Burmester	Drawing No.: DAT-0006
checked: 13.06.22 Carsten Grebien	

Die Zeichnung ist unser urheberrechtliches Eigentum. Jede Vervielfältigung, Verbreitung, Mitteilung oder sonstige Weitergabe an dritte Personen ist strikter und wird gerichtlich verfolgt (Urheberrechtsgesetz, Gesetz gegen unlauteren Wettbewerb, BGB).



Material		Werkstoff		Werkstoff-Nr.	
Erstellt	16.05.13	Datum	1:10	Format	A3
Geschnitten	16.05.13	Name	Blatt-Nr.		1/1
Geprüft			Klassifizierung:		
Allgemeine Toleranzen für: Längen- u. Winkelmaße : ISO 2768-mK Schweißkonstruktionen : EN ISO 13920-BF GD&C- und Maßtoleranzen für Grenzmaße : EN ISO 9013-1A		Ausg. Änderung		Änderungs-index	-
Abzug aus ISO 2768-m Minusmaß : ± 0,1 ± 0,2 ± 0,3 ± 0,5 ± 0,8 ± 1,2 ± 2 Plusmaß : ± 0,1 ± 0,2 ± 0,3 ± 0,5 ± 0,8 ± 1,2 ± 2		Datum		Name	
Entstanden aus:		Ersetzt für:		Ersetzt durch:	
		Palette für 500er Schrank pallet for 500 cabinet		Ident.-Nr. 2064154	
				Zug-Nr.: 2064154	

Die Zeichnung ist unser urheberrechtliches Eigentum. Jede Vervielfältigung, Verbreitung, Mitteilung oder sonstige Weitergabe an dritte Personen ist strikto und wird gerichtlich verfolgt (Urheberrechtsgesetz, Gesetz gegen unlauteren Wettbewerb, BGB).



Material		Werkstoff		Werkstoff-Nr.	
Erstellt	16.05.13	Datum	Maßstab	Format	Blatt-Nr.
Geschnitten	16.05.13	Name	1:10	A3	1/1
Geprüft			Klassifizierung:		
Allgemeine Toleranzen für: Längen- u. Winkelmaße : ISO 2768-mK Schweißkonstruktionen : EN ISO 13920-BF GDf- und Maß toleranzen für Grenzmaße : EN ISO 9013-1A		Ausg. Änderung		Änderungs-Index	- Datum Name
Abzug aus ISO 2768-m Minusmaß : ± 0,1 ± 0,2 ± 0,3 ± 0,5 ± 0,8 ± 1,2 ± 2 Plusmaß : ± 0,1 ± 0,2 ± 0,3 ± 0,5 ± 0,8 ± 1,2 ± 2		Gewicht: kg		Ident.-Nr. 2064161	
Entstanden aus:		Ersetzt für:		Ersetzt durch:	
		Palette für 600er Schrank pallet for 600 cabinet		Zug-Nr.: 2064161	