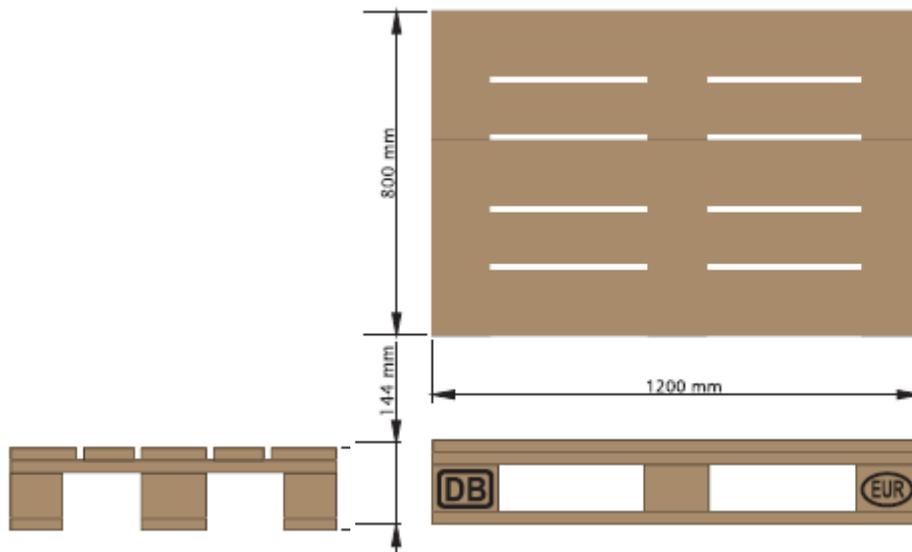


Packaging Handbook



Our automated warehousing system calls for compliance in future with the following requirements

<p>A. Delivery on Euro pallets</p> <p>Delivery only on Euro pallets suitable for high-bay warehouse storage and automated conveying systems.</p> <p>Drums of the sizes 05 through 14 to be delivered only on EURO pallets of the dimensions</p> <p>1200 x 800 x 144 mm.</p> <p>Loading in the direction of travel.</p>	<p>Length (mm) 1200 Width (mm) 800 Total height (mm) 144 Entrance height (mm) 100 Tare (kg) 28-32 Total permissible weight (kg) 1000 Loading area (m²) 0.96 Volume (m³) 0.144</p>
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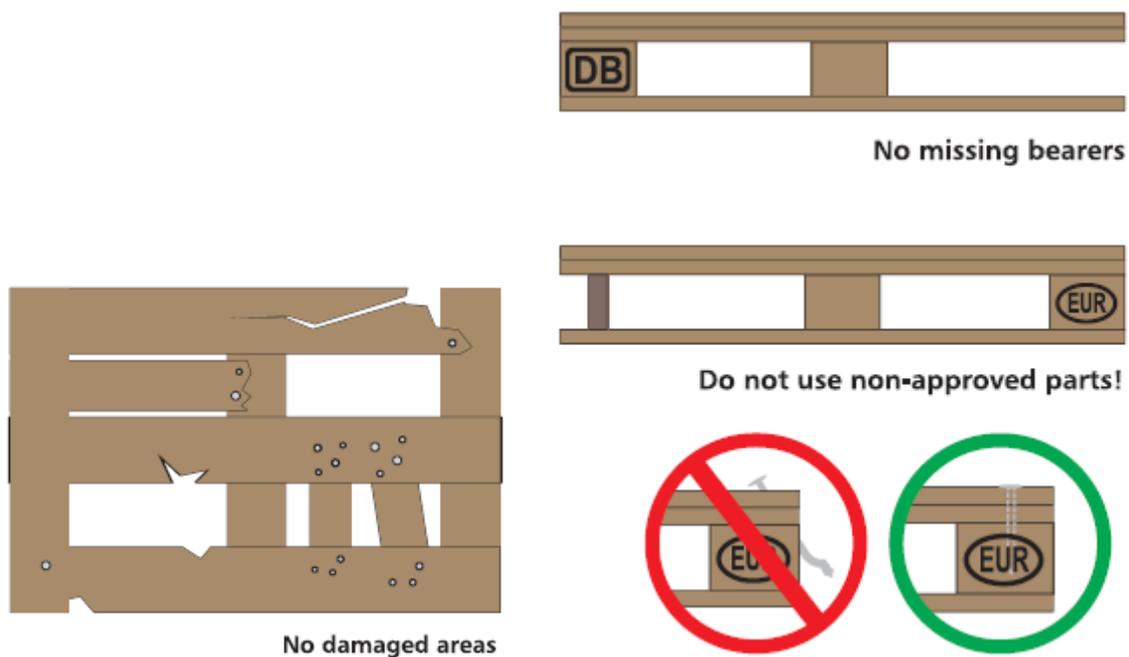
B. EURO pallet (Pool pallet DIN 15146, Sheet 2, dimensions norm and DIN 15147, goods norm)

The Pool flat pallet with a loading area of 800 x 1200 mm is a four-way pallet, i.e. it can be taken from all sides without any hindrance. It complies with all parts of DIN norms and meets all requirements of the European Pallet Pool.

C. Properties of Euro pallets suitable for high-bay warehousing

A Euro pallet is not suitable for use if:

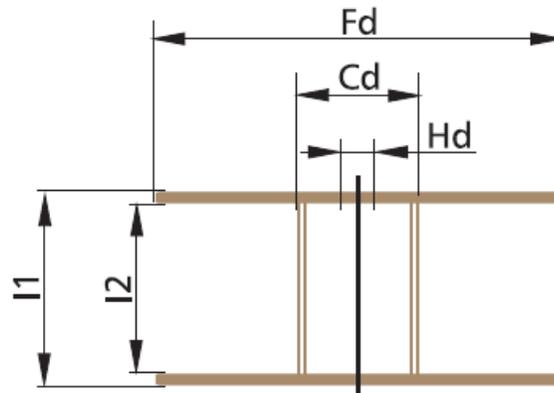
- A board is missing, is at an angle or is broken across its width.
- Boards at edges and for the floor are splintered to such an extent that two or more nails and/or shafts of screws are visible at any one board, or one or more nails and shafts of screws are visible at more than two boards.
- A bearer is missing, is damaged or splintered to such an extent that more than one nail or shaft of a screw is visible.
- Apparently non-approved parts have been used in repairs made to pallets (e.g. boards and/or bearers have been used that are too thin, too narrow, too short, etc.)
- The overall condition is so poor that the load-bearing capacity is no longer assured (decayed, rotten, several splintered boards and/or bearers).



A. Delivery and unloading of drums

Size 16 drums shall be delivered upright not on a pallet since the tolerance of the overhang is exceeded as of drum size 16'.

Drum dimensions:



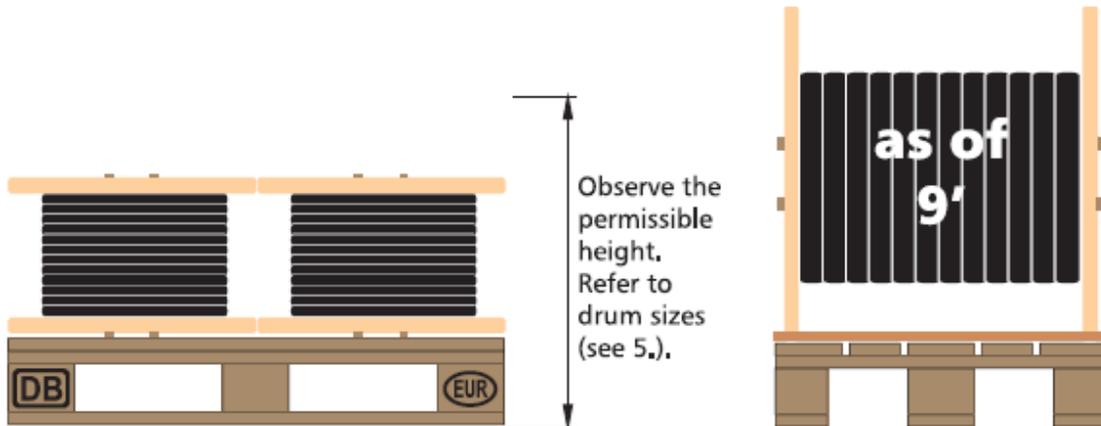
Fd= Flange diameter Hd= Hole diameter
Cd= Core diameter I1= Overall width
I2= Coil width

B. Drum dimensions (standard)

Drum size	Flange diameter Fd	Core diameter Cd	Hole diameter Hd	Overall width I1	Coil width I2	Load capacity max.	Drum weight
Code	mm	mm	mm	mm	mm	kg	kg
5	500	150	56	470	410	100	8
6	630	315	56	415	315	250	17
7	710	355	80	520	400	250	25
8	800	400	80	520	400	400	31
9	900	450	80	690	560	750	47
10	1000	500	80	710	560	900	71
12	1250	600	80	890	670	1700	144
14	1400	710	80	890	670	2000	175
16/8	1600	800	80	1100	850	3000	280
18/10	1800	1000	100	1100	840	4000	380
20/12	2000	1250	100	1350	1045	5000	550
22/12	2240	1400	125	1450	1140	6000	710
25/14	2500	1400	125	1450	1140	7500	875
25/16	2500	1600	125	1450	1130	7500	900
28/18	2800	1800	140	1635	1280	10000	1175

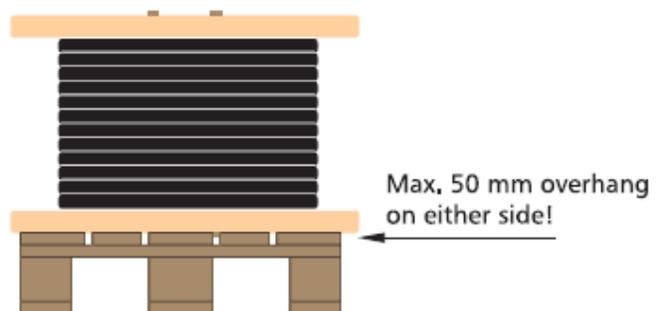
Maximum loading height

It shall be observed when delivering goods that the maximum loading height of 1600 mm incl. pallet is not exceeded. All drums as of size 9' must be delivered in the upright position. Attention shall be paid to securing properly when delivering drums in the upright position. This is because the drum flange projects beyond the pallet dimension of 800 mm. The drum must be secured by wedges or similar for dispatching.



Overhang of the loaded goods

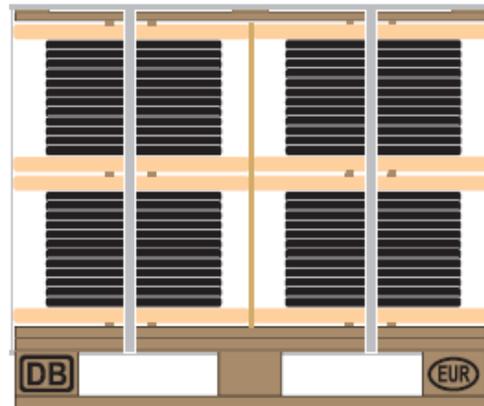
The overhang of loaded goods shall not exceed the permitted tolerance of 50 mm.



5A. Securing the load

Loading shall be such that the loaded goods arrive undamaged and in perfect condition at the recipient's premises for unloading here by a forklift. The drums can be secured with 5 taugh straps (e.g. 3 in the traverse and 2 in the longitudinal direction). Alternatively, stretch film or wooden covers can be used. There shall be no stretch film wound over openings for the lifting fork.

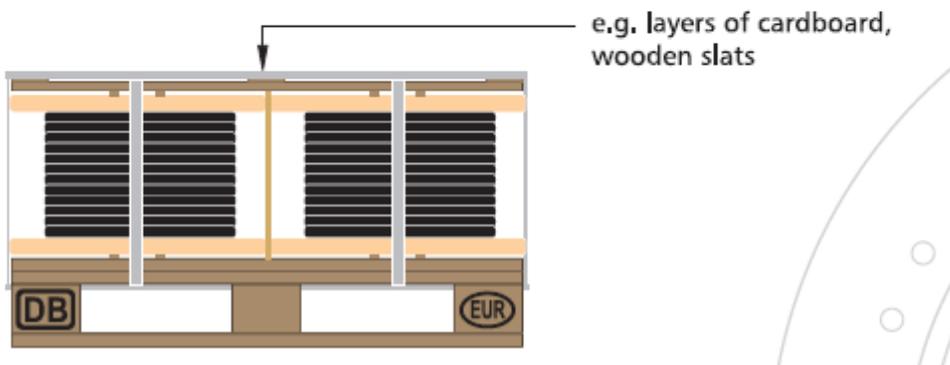
The load-carrying capacity of the vehicle's loading area shall be adequate for the load in question.



e.g. wooden cover with taugh straps, or film
max. height: 1600 mm (incl. wooden cover)

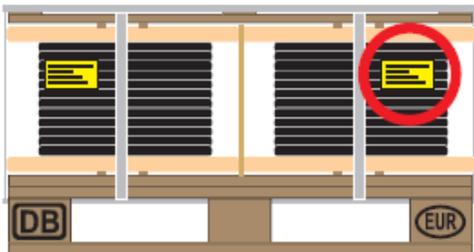
5B. Prevent loads from wedging together

The goods shall be adequately safeguarded against displacement in transit. In particular, appropriate measures (e.g. layers of cardboard) shall prevent drum flanges from interlocking.



Labelling

The labels shall be attached such that the identification can be read easily by a hand-held scanner.



Per drum, coil or reel only one label to be attached!

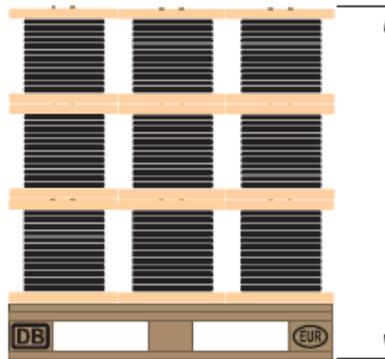
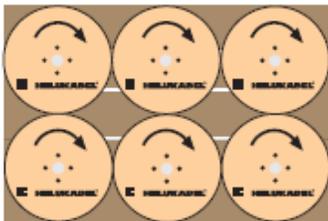
The label must be attached suitable for scanning.
(Not to be attached to the flange.)

7A. Stacking per pallet

For better handling, only drums of the same size shall be used on one pallet.

4' Drum 1190 mm

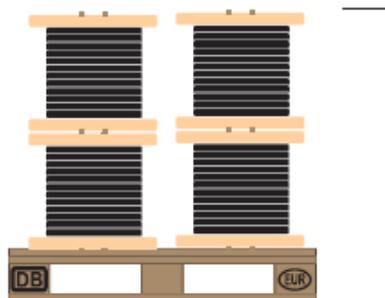
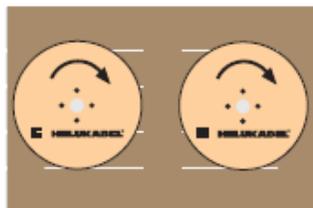
Maximum loading height, incl. pallet



Maximum loading height, incl. pallet 1190 mm

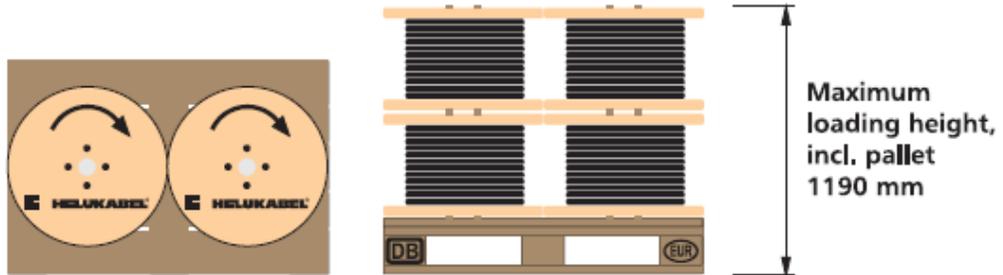
5' Drum 1190 mm

Maximum loading height, incl. pallet

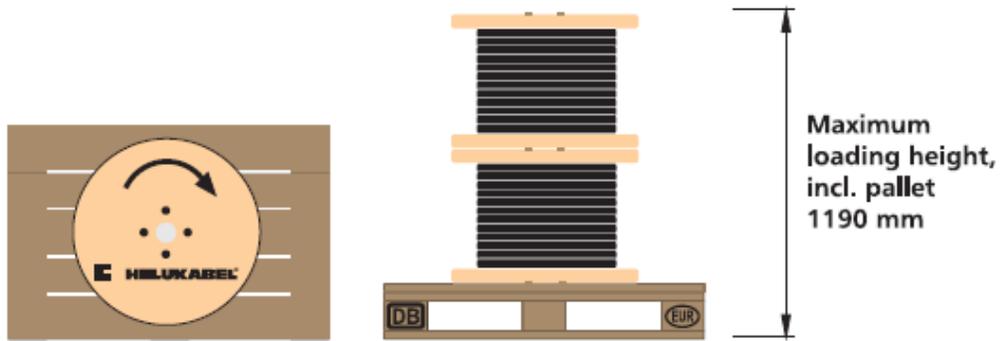


Maximum loading height, incl. pallet 1190 mm

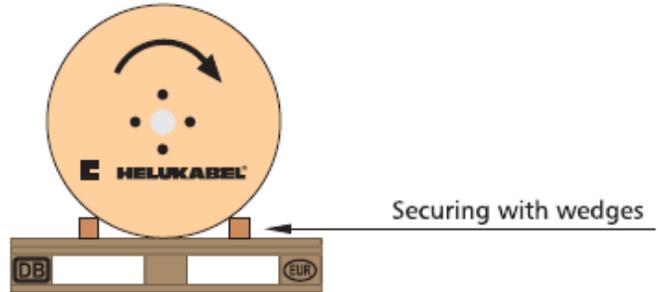
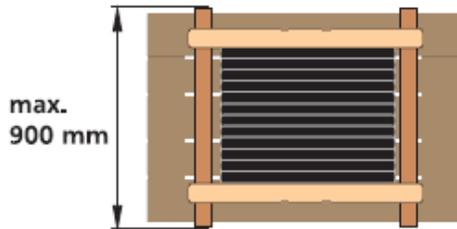
6' Drum 1190 mm Maximum loading height, incl. pallet



7' Drum 1190 mm } Maximum loading height, incl. pallet
8' Drum 1190 mm }



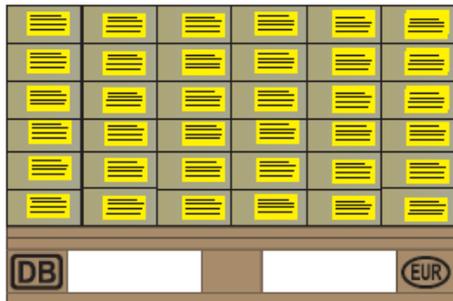
9' Drum	1190 mm	} Maximum loading height, incl. pallet
10' Drum	1190 mm	
12' Drum	1400 mm	
14' Drum	1600 mm	



As of 16' drums, delivery in the upright position without a pallet.

7B.Loading cartons of single-core conductors, etc.

Cartons of single-core conductors



Please observe!

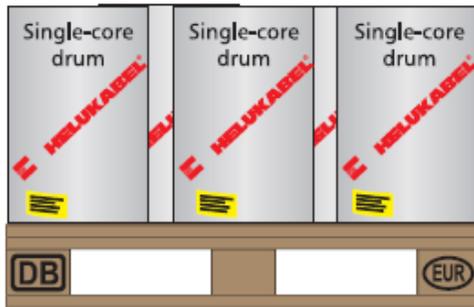
- Attach labels in such a way that they can be scanned.
- Prevent the goods from slipping by securing with stretch film.
- To prevent deformation to cartons of single-core conductors, apply a suitable pressure when winding the stretch film.
- Stretch film shall not cover openings for the lifting fork.
- The overhang shall not exceed 50 mm on either side.
- Max. height incl. pallet: 1190 mm.
- Layer of corrugated card between pallet and goods.

Reels



- Always attach labels to the welding film such that they can be scanned.
- Prevent the goods from slipping by securing with stretch film.
- Stretch film shall not cover openings for the lifting fork.
- The overhang shall not exceed 50 mm on either side.
- Max. height incl. pallet: 1190 mm.
- Layer of corrugated card between pallet and goods.

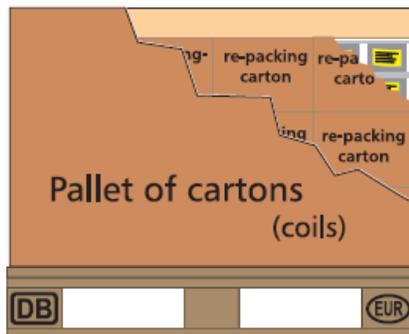
Drums



- Deliver drums in the upright position.
- Safeguard from falling over.
- Stretch film shall not cover openings for the lifting fork.
- The overhang shall not exceed 50 mm on either side.
- Max. height incl. pallet: 1190 mm.
- Layer of corrugated card between pallet and goods.
- Load-bearing handles or openings in the carton for carrying.

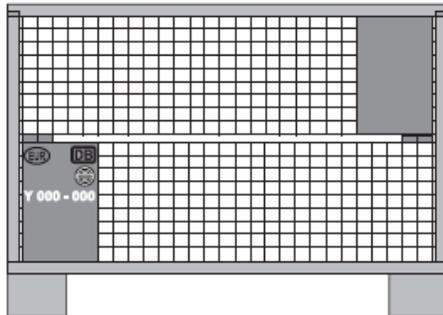
7B. Loading coils and wire mesh pallets

Coil



- Attention shall be paid when delivering different articles in one consignment that these are packed in separate re-packing cartons in the shipment.
- Never pack different articles in one pallet carton without using separate re-packing cartons.
- Max. height incl. pallet: 1190 mm

Wire mesh pallet



Attention shall be paid when delivering consignments of articles in wire boxes that both floor and walls are lined with cardboard to prevent damage.

Suitable safety precautions shall be practised when stacking pallets to rule out damage from excess pressure or chafing of the bottom pallet.

Suitable precautions are e.g. to use wooden frames or intermediate layers of card.

2C Properties of cable drums

Drums

- Weather-resistant, untreated wood quality suitable for stacking, and of adequate load-carrying capacity, pressed material (pressboard) shall not be used.
- Load-carrying capacity of the drum flange must meet the total weight of the full drum. The drum flange shall be suitable for handling by a forklift. The drum flange must be marked with "HELUKABEL" either per inscription or burning, as well as with the designated direction of rolling on both sides of the drum.
- The minimum core diameter depends on the particular requirements of the bending radius of the cable and/or wire to be delivered.
- The size of the axle take-up hole shall be between 40 mm and 90 mm.
- There shall be no screws or connecting pieces projecting beyond the maximum outside dimensions permitted for the drum.
- No plastic drums are allowed.

Winding

- Intermediate layer of neutral, environmentally compatible sheeting material (film) or similar, suitable material, between the drum core and the wound cable. No advertising allowed!
- Cable wound on the drum to max. 80 mm away from the flange edge. Sufficient clearance from the ground shall be assured.

Cable/wire ends

- Both ends of the cable/wire exposed and easily accessible for inspection/testing. Length: approx. 150 mm



- Ends of the cable/wire sealed with a moisture-tight seal and secured by strapping to the drum flange or taping to the coil with residue-free and easily removable adhesive tape.
- There shall be no cable or wire end projecting beyond the maximum outside dimensions permitted for the drum.