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Packaging of Service Parts

Specifications on packaging and labeling

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Packaging of service parts

Every service part must be protected against damage / deterioration of quality and loss between the supplier's outgoing goods department and the final use on the premises of the Heidelberg customer. The part is subjected to numerous handlings, tests and quality checks before Heidelberg makes it available to its global customers via the World Logistics Center. Appropriate, product-specific packaging ensures the quality of the service part throughout this process. Clear labeling supports proper identification and handling. The packaging must make the best use of the packaging material and be eco-friendly. It is our aim to ensure a constant product quality on the way from our premises to those of our customers, in a process that is highly efficient from start to finish.

The Heidelberg specifications for packaging and labeling are based on the special conditions for service parts.

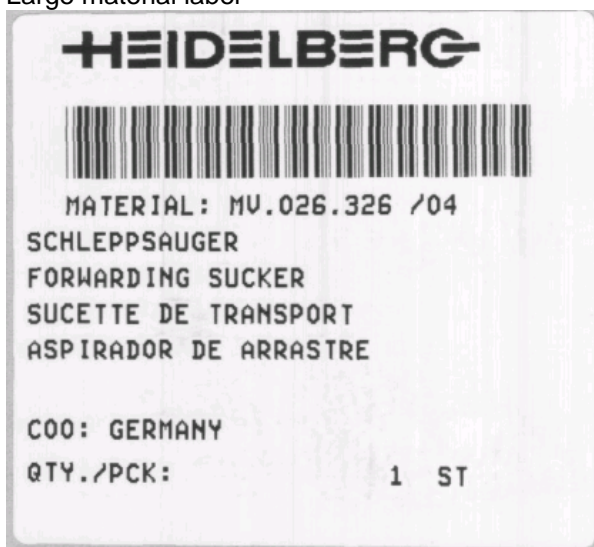
The Heidelberg Packaging Guidelines for Service Parts support the above objectives by outlining important general information and specifications on the design and labeling of packaging. The Packaging Guidelines can be requested from the contact in the Heidelberg World Logistics Center or from *Heidelberg Procurement*.

Specifications on packaging and labeling

1) General

Service parts that are only used by the system **service** must be packaged individually and neutrally (no supplier data or logo) with the Heidelberg material label.

Large material label



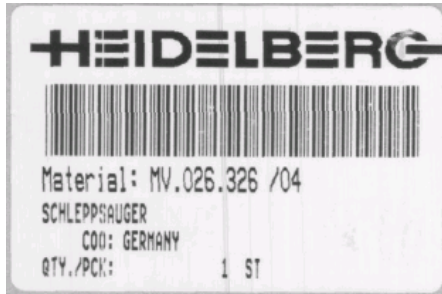
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Small material label



This rule does not apply to robust packaged goods and bulk goods, or to small and standard parts such as screws, nuts or springs.

The supplier must develop and carry out the packaging based on his specific knowledge of the service part (e.g. max. g values¹, ESD² protection, corrosion protection or surface protection).

2) Packaging for transport

Such packaging must be able to withstand the stress of acceleration, vibrations, tilting, climatic conditions, the use of transport means, and storage conditions, comply with the pertinent laws and labeling requirements and thus ensure and maintain the quality of the service parts until their final use on the end customer's premises. This can be achieved with:

- a) Wooden packaging according to IPPC³
- b) Corrugated board cartons made of corrugated board of the types 1.10 to 1.50 and 2.20 to 2.70 with bursting strength, puncture resistance and edge crush resistance according to DIN 55468-1.

At the initial delivery of packaged service parts, the parts must be accompanied by a test certificate verifying their passing of the vertical impact test according to DIN EN 22 248.

3) Packaging for storage

Such packaging must be able to withstand the stress of acceleration, vibrations, tilting, climatic conditions, and the use of transport means, comply with the pertinent laws and labeling requirements and thus maintain the quality of the service parts until they are packaged for transport, as well as support the transport packaging on the way to the end customer. This can be achieved with

- a. PE foils
- b. Corrosion protection foils
- c. Corrugated board cartons made of corrugated boards of the types 1.01 to 1.05 and 2.02 to 2.06 with bursting strength, puncture resistance and edge crush resistance according to DIN 55468-1.

¹ G force: Stress to which a body is subjected by acceleration.

² Electrostatic discharge

³ See chapter 6: Wood packaging

4) Wooden packaging

a) Wood types

- i) Suitable wood types
 - Spruce, fir or pine wood
 - Softwood
 - Yellow pine
 - Douglas fir, only for lids
 - Utipin (maritime pine)
 - Birch
 - Poplar
- ii) Unsuitable wood types
 - Beech
 - Elliotis pine
 - Meranti
 - Gabun
 - Lauan
 - All other hardwoods
 - All other tropical woods

b) Solid wood

- i) Grade
 - Lumber (softwood and hardwood) according to DIN 4074
 - Dimensions of unplaned boards and planks according to DIN 4071 T 1 1977-04, DIN 4070 T 2 1963-10
 - Observe the current requirements of the IPPC (International Plant Protection Convention) standard, ISPM 15 (International Standard for Phytosanitary Measures)
 - Labeling with IPPC symbol on two opposite sides of the wooden packaging, according to ISPM 15, country code according to ISO 3166, regional code, registration number and treatment method.

c) Plywood

- i) Material
 - Plywood made of softwood or hardwood
 - Plywood boards, thickness as specified in the drawings, cut to required dimensions and trimmed at right angles; clean, unfrayed edges
 - No distortions in the boards
 - No radioactive contamination
 - No vermin
 - No bark, dirt or mildew
- ii) Grades
 - Option 1 according to DIN 68 705 part 2 "Grade III/III"
 - Option 2 according to APA / COFI "C/C"
- iii) Plies
 - A plywood board consists of at least 5 layers glued together; each layer is glued with its grain at right angles to adjacent layers.
- iv) Veneers
 - Unground, without putty.
 - Irrespective of DIN and APA/COFI provisions, the quality of the veneers must be such that the finished box panels can be well and easily labeled with the usual methods.

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- v) Water-resistant (seawater-resistant) glue
 - Option 1 according to DIN 68 705 "A 100"
 - Option 2 according to APA/COFI "x" for exterior
 - vi) Wood moisture
 - Maximum moisture content 18 %
- d) Cleats**
- i) Dimensions
 - All wooden cleats must be delivered in the thicknesses and widths specified in the drawings, in the required dimensions and with the required degree of dryness.
 - ii) Material
 - Spruce, fir or pine of grade II/III, unplanned, without rot or cracks, without waness, vermin or dirt, not contaminated.
 - Maximum moisture content 18 %.
- e) Joints**
- Nailed joints must be made properly and ensure the stability of the joint. The nails should have the dimensions listed below. Nails should always be driven in from the thinner material towards the thicker material.
- i) Nailing square timbers
 - Smooth or grooved nails may be used.
 - Nail thickness: 2.3 mm min.
 - Nail length: 1/3-to-2/3-rule for nailing square timbers.
 - The nails must be driven in diagonally from the left/right, in alternating direction (zigzag) to form a clean joint without protruding nail tips and with the nail heads no more than 2 mm below the wood surface.
 - All surfaces must be smooth and flat in order to prevent injuries.
 - Distance between nails 60 mm max. zigzag
 - ii) Nailing cleats
 - Rivets or grooved nails may be used.
 - The nails must be driven in diagonally from the left/right, in alternating direction (zigzag) to form a clean joint without protruding nail tips and with the nail heads no more than 2 mm below the wood surface.
 - All surfaces must be smooth and flat in order to prevent injuries.
 - Distance between nails 60 mm max. zigzag.
 - When using rivets, make sure the resulting joints are clean and sturdy.
- f) Construction of boxes**
- i) Distribution and arrangement of boards
 - The aim is to obtain box panels that consist of only one board or of expertly joined boards (cleats should be avoided if possible).
 - If the board size does not permit this, the boards may be butted together. If the boards are butt-jointed, an additional cleat in the correct format must be nailed down well under each board joint if the joint is not positioned in the middle of a square timber. If cleats perpendicular to the butt joints cannot be avoided at the side and face panels, these cleats must not be lower than at 2/3 of the total height.

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- Sections must be arranged so that the longer boards are at the bottom and the shorter boards are at the top.
 - Moreover, the boards must match in terms of appearance and quality (no patchwork). The size of the cleats must be such that good workmanship and a sturdy construction are ensured. The cleats must extend at least to the middle of the nearest square timber.
 - There must be no gaps or irregularities at the plate joints that might impair the marking of the box panels or represent mechanical weak spots during storage and transport.
 - Plate joints may also be arranged in the middle of the vertical square timbers if this does not impair the strength, especially the flexural strength, of the box panel. In this case, appropriately dimensioned cross cleats must be provided to ensure the required strength.
 - ii) Lids
 - Plate joints in lids must be sealed with suitable sealing agents.
 - The lid must prevent water from penetrating into the box.
- 5) **Final remark**
- The packaging planning team at Heidelberg Service Logistics can be contacted via the usual Heidelberg contacts for consultation or support.
 - In borderline cases, or in case of unresolved or unmentioned issues, decisions are to be based on the HPE packaging guidelines (<http://www.hpe.de>) and the industry quality standards.

Heidelberg Packaging Guidelines for Service Parts

Verpackungsrichtlinien für Serviceteile

Version 1.0



The use of the Heidelberg Packaging Guidelines for Service Parts* may be helpful for the design of appropriate packaging. This documentation may be requested in case of need as brochure from Heidelberg Procurement.

(*only available in German)