

# **Packaging instruction for overseas transport**

## **IDEAL Automotive GmbH**

Change service:

Status	Page	Description of the change with the name of the person responsible	Date
1	1-7	Original	24.08.2016

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## 1 Scope of application

This instruction regulates the packaging for machines/ machinery and tools for overseas transportation to/ from IDEAL Automotive.

## 2 Packaging - General requirements

The seaworthy packaging should protect the goods optimally against mechanical and physical-chemical damage. This does not only apply to the period of the sea transportation and the subsequent truck transportation to the consignee, but also to the storage time required in each case. Thus, the responsibility of the supplier for packaging only ends after taking the goods from the package.

On the entire transport route, stresses affect the package. These stresses must be considered when choosing the means of transport, packaging and load-securing devices.

The choice of packaging depends on the product properties, the protection requirements, the mode of transport and the conditions at the supplier's. If necessary, details can be found in the order documents and the project-specific documents.

For each kind of packaging, the opportunity of a customs control must be granted.

Only the currently valid "HPE packaging instruction" applies to the production and design of the seaworthy packaging.

The currently valid "Import regulation for solid wood IPPC standard" applies to the treatment of the lumbers used as well as to the marking of the packaging. Notwithstanding the IPPC standards, the use of methyl bromide (MB) is prohibited unless IDEAL expressly agrees to the use. The method preferred by IDEAL is the heat treatment (HT).

Example:

Non-sensitive parts that are easy to handle

- Wooden pallet / pallet
- Optionally, protect them against splash water

Goods that are susceptible to corrosion, in case of a transportation of more than 24 hours

- The floor of the box must allow handling by crane and forklift truck
- Sufficient corrosion protection during transport and protection against splash water
- The formation of water pockets must be ruled out

Container transports (door-to-door) – containers not as stacked goods

- Regarding its actual purpose, the container is a "transport aid" and only suitable as package to a limited extent.
- The floor of the box must allow handling by crane and forklift truck
- VCI method or desiccant method depends on the transport duration and the storage period.

All other shipments, e.g. flat rack container, multiple reloading, etc.

- Wooden box according to the association rules and the HPE standard
- Corrosion protection depending on transport duration and the storage period

The attachment points, the centre of gravity and the transport position must be marked at each package. The attachment points must be selected in such a way that the ropes cannot shift and the package is moved in horizontal position.

### 3 Structure of the packaging

#### 3.1 Preservation and corrosion protection

All machined surfaces or surfaces that are generally sensitive to corrosion must be adequately protected against the formation of corrosion. Corrosion protection is also particularly important during transportation. The formation of corrosion can be extremely accelerated by external conditions, e.g. the condensate formation due to temperature changes in combination with an increased relative humidity, seawater, dirt and gases in the air or dust.

In order to protect packaged goods against corrosion, dust, humidity, abrasion or other damage that may be detrimental to the appearance or function of the packaged goods, caps, protective plastic sheets, plugs, covers or other adequate methods are suitable. Depending on the application, the use of such a method or several such methods is recommended.

For the duration of the transport and storage, parts that are susceptible to corrosion must be packed in a dry, corrosion-free environment.

The type of the corrosion protection material used depends on the sensitivity of the packaged goods, the transport conditions, the duration of transport, the storage and the storage conditions.

If requirements concerning preservation and corrosion protection have not already been regulated in the relevant standards, the supplier must observe the following:

- Materials, which are susceptible to corrosion due to their design and quality, must be shrink-wrapped. The minimum thickness of the foil is 0.2 mm. When selecting foils, their water vapour tightness as well as the durability over the entire duration of transport and storage must be observed. Exception: Unmachined parts such as unmachined castings
- For the duration of transport and storage, a sufficient amount of desiccant must be added to the packages, so that the relative humidity within the barrier foil is maintained for the whole period of transport and storage for at least 3 months
- Only packages that are harmless with respect to corrosion may be used for packaging the goods. This applies to both their chemical constitution and their water absorption capacity.
- If materials are provided for shipment in an unpacked condition, the supplier must protect them against corrosion in a suitable manner according to the relevant technical specifications and the expected mode of shipment.
- It must be as easy as possible to remove the corrosion protection. Further, it must be possible to dispose of it in an economical and environmentally friendly way.
- All blind holes, through holes, open pipelines and hose lines as well as connections must be properly capped or plugged. Caps and plugs must have a tight fit, so that they will not become loose during transportation, handling and storage.

### 3.2 Floor element of the package

- Floor constructions with transverse skids, runners
- Allow handling by crane and forklift truck
- Structure of the floor should distribute the load evenly over the loading zones in order to avoid a local overload

### 3.3 Cover element of the package

- The bottom side of the cover should be sealed with PE foil (thickness at least 200µm)
- Appropriate measures to avoid the formation of water pockets on the cover foil

### 3.4 Labels

- Complete labelling as required in DIN 55402 part 2 must include the following three parts:
  - o Shipping mark
  - o Information mark
  - o Handling instructions
- Side: Shipping mark + information mark
- End: Shipping mark and packing no.
- Label for the treatment of wood (IPPC standard)
- Markings/ labels may only be directly applied onto the package if later processing is not adversely affected by this. When using colours, it must be checked whether the colour is compatible with primer and final coat.
- The attachment points, the centre of gravity and the transport position must be marked at each package.

## 4 Load securing

Each package must be properly secured (according to GDV directives) and protected against external influences, regardless of the means of transport (inside of boxes, containers etc.).

## 5 Measures, documentation

The measures and documents described herein are an integral part of this instruction and must be observed

- Photo documentation of the machine/ machinery and tools before packaging
- Photo documentation of the machine/ machinery and tools after packaging
- Photos of the inside of the box/ container after loading
- Photos of the fixation/ securing of moving parts
- Photos of the padding of sensitive parts

## 6 Other applicable documents

In addition to the provisions included in this instruction, please refer to the additional and binding specifications in the corresponding links, which are the basis of our directive.

GDV - Packaging Handbook for the construction of boxes and crates

<http://www.tis-gdv.de/tis/verpack/verpackungshandbuch/verpackungshandbuch.htm>

GDV - Definition "Fit-for-purpose packaging"

[http://www.tis-gdv.de/tis/verpack/verpackungshandbuch/01verpackungshandbuch\\_01.htm](http://www.tis-gdv.de/tis/verpack/verpackungshandbuch/01verpackungshandbuch_01.htm)

GDV - Container Handbook

<https://www.containerhandbuch.de>

HPE packaging guidelines Online Document

<http://www.hpe.de/verpackung-hpe-standard/verpackungsrichtlinie-online.html>

HPE - Import regulations - List of countries

<http://www.hpe.de/daten-und-fakten/einfuhrvorschriften/ispm-15-laenderliste.html>

ISPM15 country overview

<http://www.timcon.org/ISPM15/ISPM15GlobalGuide.asp>

Furthermore, the following standards apply:

- **DIN 30798:** Modular system; modular coordination; terminology
- **DIN 55402:** Marking for shipping
- **ISO R/780:** Symbols for package handling instructions
- **DIN 55405:** Terminology for packaging
- **DIN 55473:** Desiccants in bags
- **DIN 55499:** Basic types of solid wooden boxes up to 500 kg
- **DIN 55509:** Payload areas in packaging; terminology
- **DIN 55510:** Packaging; modular coordination in packaging; modular sub-multiples of the 600 mm x 400 mm area module
- **EPAL Pallet system – Inscription plate:**  
<http://www.epal-pallets.de/de/produkte/aufschriftentafel.php>
- **EPAL Pallet system – Criteria for exchanging:**  
<http://www.epal-pallets.de/de/produkte/tauschkriterien.php>
- **EPAL Pallet system – Load-bearing capacity:**  
<http://www.epal-pallets.de/de/produkte/tragfaehigkeit.php>
- **IATA-RAR-Code:** International Air Transport Association - Restricted Articles Regulations
- **IMDG-Code:** International Maritime Code for Dangerous Goods
- **IPPC-Standard ISPM no. 15:** Phytosanitary regulations of the IPPC for packaging materials made of solid wood in the international trade
- **Modularisation of package sizes in the Cargo loss prevention information from German marine insurers:**  
<http://www.tis-gdv.de/tis/verpack/normung/normung.htm#m38>
- **VDI 3968:** Securing of load units
- **Directive (EC) no. 1272/2008** of the European Parliament and of the Council: classification, labelling and packaging of substances and mixtures

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