

PACKAGING MANUAL

the

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and

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- hereinafter referred to as FEP/EHR



Table of contents

1. general information

- 1.1 Foreword
- 1.2 Goal
- 1.2 Scope of application

2. coordination of packaging with purchasing and logistics

3. requirements for the packaging

- 3.1 General requirements
- 3.2 Cleanliness
- 3.3 Special protective measures
 - 3.3.1 Corrosion protection
 - 3.3.2 ISPM 15
 - 3.3.2 ESD

4. design of the packaging

- 4.1 Permitted packaging materials
- 4.2 Disposable and reusable packaging
- 4.3 Formation of shipping units
- 4.4 Weights and dimensions

5. load securing

- 5.1 General load securing
- 5.2 Load securing equipment

6. labeling

- 6.1 General requirements for labeling
- 6.2 VDA goods tags

1. General information

1.1 Foreword

FEP/EHR has steadily grown to become a strategic international partner for the entire automotive industry and, together with the Amphenol Group, is now one of the largest connector manufacturers in the world.

The packaging manual is intended to regulate the flow of materials between the contracting parties, taking into account all qualitative, ecological and economic aspects.

1.2 Goal

The aim of this manual is to ensure the sustainable development and optimization of the entire logistics chain. This includes the smooth and optimized flow of materials between FEP/EHR and its suppliers as well as the minimization of negative environmental impacts and the associated costs.

In addition, unnecessary repackaging activities and unsuitable filling quantities should also be prevented in order to minimize costs in this area too.

FEP/EHR would like to develop an optimized packaging system with the help of the packaging manual for suppliers. Furthermore, the manual is intended to serve as a guideline for the Purchasing and Logistics department to create a suitable packaging data sheet together with the supplier.

1.3 Scope of application

The packaging manual is valid for all deliveries to FEP/EHR, Pirna site, the Leupoldishain logistics hub and Ehrlich Leupoldishain.

2. Coordinating packaging with purchasing and logistics

The supplier shall prepare a suitable packaging data sheet draft with the aid of this packaging manual (see Appendix A).

The draft is checked by the purchasing and logistics staff and supplemented if necessary. The draft packaging data sheet is then sent back to the supplier. The supplier can approve the packaging data sheet with his signature. If the supplier does not respond to the changes made by FEP/EHR to the packaging data sheet within two weeks, these shall be deemed binding.

In addition to the suitable packaging, the packaging data sheet also regulates the load carrier, the dimensions and weights, as well as the packaging unit (PU) and, if necessary, alternative packaging.

3. Packaging requirements

3.1 General requirements

The supplier is responsible for ensuring that the goods arrive at FEP/EHR in a quality-preserving condition.

The packaging should be designed in such a way that safe reloading, problem-free unloading and safe transportation are possible.

The packaging materials must comply with the Packaging Directive 94/62/EC with regard to the prevention of environmental damage, recycling, material utilization and disposal.

In the case of delivery by air or sea, the supplier must comply with the guidelines that apply to this type of transportation. (Guidelines for air and sea transportation)

In principle, only the packaging approved by FEP/EHR in the packaging data sheet or agreed separately may be used.

This release is based on the FEP/EHR Packaging Manual.

3.2 Cleanliness

The supplier shall ensure that the goods are packaged cleanly in accordance with the specifications provided by FEP/EHR and are protected from contamination during transportation.

The data specified by FEP/EHR must be taken from the respective drawing and adhered to.

Any reusable packaging must be cleaned accordingly by the supplier.

3.3 Special protective measures

3.3.1 Corrosion protection

All parts that are sensitive to corrosion require special protection against attack and destruction by corrosive agents. The goods must be protected against decomposition by the supplier in such a way that no corrosion occurs.

The required protection must be carried out in accordance with the drawing.

3.3.2 ISPM15

ISPM 15 must be observed when using wood. For example, wooden pallets must be treated in accordance with the IPPC guidelines and the ISPM 15 standard.

3.3.3 ESD

Electrical components are packaged by the supplier with conductive packaging material to prevent electrostatic discharge. The use of ESD packaging can be found in the drawing.

4. Design of the packaging

4.1 Permitted packaging aids

The supplier may only use packaging aids for packaging that have been agreed with FEP/EHR.

If KLT or SLT (special load carriers such as coil racks) have been agreed for packaging, alternative packaging must be specified on the packaging data sheet and only used in consultation with and with the approval of the supplier.

In addition, the specifications in 4.2 Disposable and reusable packaging must be complied with.

Inner or individual packaging and inserts

- Intermediate insert

The intermediate layer should be used when packaging layers need to be separated and protected.

- Separating insert

The separating insert is used to protect the parts from slipping or knocking against each other and thus prevent damage.

- Bag/ plastic bag

This packaging is used to protect the parts from possible soiling or scratching by the outer packaging and to keep the item protected in an insulated atmosphere.

Outer packaging (VPE)

- Corrugated cardboard and cardboard box packaging

The dimensions to be selected depend on the packaged goods. A total weight of **15 kg** must not be exceeded to ensure easy handling.

The outer packaging complies with DIN 55468 and should be stable and stackable. The parts in the box must be properly secured and packed in compliance with the special protective measures (see 3.3).

It must be ensured that the outer packaging is in a dry and intact condition.

The dimensions of the outer packaging must be classified in the packaging cluster specified by FEP/EHR (see 4.5).

Small load carrier

- Small load carriers (KLT) according to VDA

Small load carriers (SLCs) are reusable packaging used for handling parts circulation. These can either be the property of FEP/EHR, a supplier or a customer of FEP/EHR. The stocks of KLTs must be monitored at all times and reconciled between the contracting parties on a monthly basis by means of an account statement. The KLTs must be in a condition at all times that ensures that all protection and cleanliness requirements are met.

Load carrier

- IPPC Disposable pallet wood

This one-way load carrier is used to form load units. The one-way pallet made of solid wood has the dimensions 1200 x 800 mm or 800 x 600 mm and must have a load capacity corresponding to the load. It must be in a proper and flawless condition. This means that the pallet must be dry and all boards and blocks must be present. IPPC guidelines must be observed.

- EURO pallet

The EURO pallet is a returnable load carrier and is used to form load units. The pallet should be in perfect and proper condition. There must be no missing markings, no heavy soiling and no protruding nails, no missing or splintered boards. The pallet must be in an exchangeable condition upon delivery. FEP/EHR only accepts Euro pallets up to quality class B. The exchange criteria can be viewed here: [EPAL Euro pallet \(epal-pallets.org\)](http://epal-pallets.org)

- EURO grid box

The EURO pallet cage is a returnable load carrier and is used to form load units. The pallet cage must be stable and stackable. Only one article may be transported or contained in a pallet cage. The frame and the grids of the box must not be bent and it must be in a rust-free and perfect condition. All elements should be present and the front should open easily. The pallet cage must be in an exchangeable condition on delivery and the test seal must be present. The exchange criteria can be viewed here: [EPAL pallet cage \(epal-pallets.org\)](http://epal-pallets.org)

- Coil rack (special load carrier)

The reel rack is used to store and transport reels. This reusable packaging must be stackable and hot-dip galvanized. It must be ensured that there are skids on the feet to enable safe storage.

Packing aids

- Stretch or shrink film

Stretch film is wrapped around the package under high tension. It ensures high tension and thus encloses the package securely and firmly.

Shrink film contracts strongly under the effect of heat, so it fits particularly tightly around the packaged goods.

When using foil, make sure that the outside is slippery.

- Edge and corner protection

Edge and corner protection is used when the edges and corners of the outer packaging are particularly sensitive and therefore require special protection during transportation.

- Stacking protection

Non-stackable packaging must be identified by appropriate markings, e.g. pallet caps.

Upholstery material

- Cushioning material is used to protect parts from slipping inside the packaging. Approved cushioning materials are packing paper, bubble wrap and foam chips. For reasons of environmental protection, plastic should be avoided wherever possible.

Corrosion protection packaging

- This type of packaging should be used if products need to be protected against corrosion (see also 3.3.1 Corrosion protection). VCI film, VCI paper and desiccant bags are approved packaging materials for this purpose.

ESD packaging

- ESD cardboard boxes, ESD films, ESD bags and ESD foam are approved packaging if electronic products need to be protected against discharge (see also 3.3.3 ESD)

4.2 Disposable and reusable packaging

Disposable packaging is packaging for single use with subsequent disposal. The disposable packaging and the inner disposable packaging must be selected by the supplier in such a way that they can be recycled by type. Composite materials and cardboard stapled or nailed to wooden pallets, for example, are not permitted.

Procurement and the associated costs of disposable packaging are generally borne by the supplier.

Reusable packaging is packaging that is used several times. The use of reusable packaging requires a special agreement with FEP/EHR.

No substances, e.g. oil or adhesives, and no odors may adhere. Furthermore, it must not contain any foreign substances that are not permitted packaging materials.

The coil rack (see 4.1 Permitted packaging materials) is an exception to this rule, which must be clarified separately with the Purchasing department.

4.3 Formation of shipping units

When forming shipping units, the basic principle is that optimum utilization of the individual containers should be achieved.

The stackability of the containers and pallets must be guaranteed.

The data specified in 4.4 Weights, dimensions and quantities must not be exceeded under any circumstances.

A shipping unit must always be single-layered and may only consist of one item.

Exceptional cases must be clarified with FEP/EHR. In this case, clear labeling is absolutely necessary.

4.4 Weights and dimensions

The maximum weight for outer packaging (PU) is 15 kg. Exceeding this value is only permitted in exceptional cases with the approval of FEP/EHR.

The maximum height of the package depends on the goods to be packed. The outer packaging must not exceed the length of the load carrier by more than 50 mm.

5. Load securing

5.1 General load securing

The first thing to consider when securing the load is the type of vehicle in which the package is to be transported.

The road traffic regulations form the legal basis. Specifically, information on loads can be found in Section 22 of the StVO. Section 22 (1) states that the load must be secured in such a way that it does not slip, fall over, roll back and forth, fall down or generate avoidable noise in the event of emergency braking or a sudden evasive movement.

5.2 Load securing equipment

The supplier shall select the load securing equipment in such a way that the general load securing requirements are met and the goods are delivered to FEP/EHR in the agreed quality.

Load securing equipment can include clamping boards, intermediate wall fasteners, tension rods, lashing straps, anti-slip mats, edge protectors, load securing nets, etc.

6. Labeling

The labeling of the delivered items is clarified in the General Delivery Instructions under point 2 Delivery and documents.

Notes:

Please note that as a supplier you are obliged to observe the regulations described in this manual.

In order to jointly achieve an economical material flow, we reserve the right to return deliveries that do not comply with the regulations at your expense or to invoice the additional costs.

See point 5 Deviations and cost note in the General Delivery Instructions.

Appendix:

Packaging data sheet template

Version	Date	Chapter	Amendment/supplements
1.0	25.11.2024	1 - 6	Created