



Packaging directive

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Attachments

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1 Purpose

The packaging guideline is intended to inform suppliers of Steyr Automotive GmbH about the use of packaging. This document primarily serves as an aid on how to pack the goods safely, damage-free and optimally. Together with the supplier, a rationalized packaging system is to be created that enables a smooth, quality-assured and environmentally friendly material flow.

2 Scope

This packaging guideline applies to suppliers of series material, operating materials and supplies as well as spare parts suppliers. It is to be applied to all suppliers of STEYR Automotive GmbH hereinafter also referred to as "STA". This standard specifies the principles on which STA's packaging plans are based and the requirements for supplementary packaging use on the part of the supplier. When drawing up component specifications, the provisions laid down in this standard are binding.

3 Terms and definitions

3.1 Abbreviations

STA - Steyr Automotive GmbH

ULT - Universal Load Carrier

KLT - Small load carrier

SLT - Special load carrier

3.2 Definitions of terms

Not documented

4 Description and responsibilities

4.1 Types of packaging

The packaging is to be planned specifically for the part and according to aspects of logistics, quality assurance, environmental compatibility and economic efficiency.

The packer/shipper is liable for the condition of the delivered goods.

In addition to the specifications in this standard, the STA Packaging Guideline for Distribution Parts and Accessories, as amended, must also be observed for spare parts.

Packaging must always be planned from an economic and ecological point of view. Together with its suppliers, STA fulfils the waste management objectives of environmental legislation according to the following ecological priorities:

- Conservation of resources and reduction of transport volume - Packaging should be limited to what is necessary in terms of weight and volume.
- Reusable packaging - use and continuous improvement of reusable packaging.
- Material recycling - use of environmentally compatible, recyclable materials for all types of packaging. Environmentally sound recycling must be possible for disposable and reusable packaging.

At STA, the following types of packaging are permitted for transport between supplier and consumer location:



4.1.1 Reusable packaging

A transport unit can consist of various reusable components. The Components (lid, pallet, KLT, ULT, etc.) are not broken up during transport. A load unit consists of one GLT or several packages which are used for separation. A package is a load carrier (cardboard box, KLT, etc.) with or without a special insert. Special inserts must not be separated from their original load carrier.

The following load carrier types are in use:

- Universal Load Carrier (ULT)
- Small load carrier (KLT)
- Special load carrier (SLT)
- Insert frame / EPP inserts
- Wood and steel flat pallets
- Intermediate shelves and cover plates
- Liquid container
- Reusable packaging systems Cardboard boxes and reusable packaging aids

Universal load carriers are used for several suppliers. They are not clearly assigned to any supplier and have no fixed inserts. Special load carriers are clearly assigned to a part or set. Each packing unit is identified by a label. Special load carriers are usually used for parts that need to be protected from slipping and/or damage by additional inserts (thermoforming sheets, mandrel inserts, trusses, etc.).

Reusable packaging must be completely emptiable, easy to clean and, if necessary, provided with inliners.

Paper, cardboard or marked PE film must be used for goods tags according to VDA recommendation 4902. Goods tags must not be glued, especially with the VDA-KLT system. If the intended holders are not used, easily detachable and residue-free adhesive dots must be applied. For reasons of accident prevention, wire suspensions are not permitted.

Empties are to be delivered to the packer in functional condition. More stringent requirements for the cleanliness of the packaging are to be determined and fulfilled by the packer himself as required.

As contour checks are carried out in automatic material flow systems, the goods as well as the packaging aids must not exceed the outer contours of the load carriers.

For liquid and pasty substances, returnable containers must always be used. The use of STA load carriers for other purposes is not permitted.

Technical data on the STA load carriers are available from the contact persons at the factory.

The returnable container cycle is calculated on the basis of the load carrier circulation calculation such as volumes, transport frequencies, stock levels, etc. The returnable packaging provided by STA may only be used by the Supplier for the following purposes:

Time for packing the collection quantity determined according to the load carrier circulation calculation.

- The safety stock specified by STA

Any further use of the packaging provided is prohibited for the supplier, as for:

- the internal production cycle at the supplier



- the deliveries from/to sub-suppliers
- the intermediate storage of semi-finished products
- the storage of finished goods in excess of the agreed safety stock and collection quantity
- the storage of pre-runs (e.g. in case of different plant holidays, etc.)

4.1.2 Disposable packaging

Disposable packaging is characterized by the fact that it is intended for single use only. is provided for. This is due to the fact that repatriation and reuse is not possible.

is economical (e.g. one-off delivery, overseas suppliers). Disposable packaging or auxiliary materials can also be part of reusable packaging. The procurement of the disposable packaging is the supplier's responsibility and is at his expense. Consequently, the supplier must already take the price for the disposable packaging into account in the offer and communicate it to STA at the same time (A and B price calculation sheet).

Disposable packaging also includes all auxiliary materials such as strapping, labels, adhesive tapes, desiccant bags, edge protectors, various filling materials, intermediate layers, etc. (not a complete list).

Basically, the general packaging requirements must be met. In addition, it must be ensured that the component is never in direct contact with the carton and thus no damage is caused to the component.

Disposable packaging includes:

- Protective packaging
- Cardboard boxes
- Pallets
- Packaging aids
- Liquid container

Material combinations or connections must be avoided or kept to a minimum. They must be separable after use (e.g. iron clips or wooden nails).

All disposable packaging shall be clearly visibly marked with standardized pictorial and abbreviated symbols in accordance with DIN 6120 ff or symbols recognized by the waste management industry. The labelling must not restrict recyclability.

Environmentally sound, recyclable materials that are widely accepted for recycling shall be used for all disposable packaging.

The use of food as packaging material is not permitted in the STA.

Composite materials and packaging chips are to be used only after part-specific approval.

Adhesive and packaging tapes, as well as labels and goods tags, must not restrict the recyclability of the carrier material.

The following table gives an overview of which materials are approved for disposable packaging. Materials that deviate from the approved materials must be discussed with the relevant warehouse logistics departments.

Art	Approved material	Examples of inadmissible material *)
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Cardboard	Paperboard free from substances harmful to paper production	Papers and cardboard with water-soluble coatings or adhesives
Corrosion protection paper	VCI papers that are demonstrably recyclable together with paper/cardboard (VCI: volatile corrosion inhibitor)	- Paper with incompatible additives - incompatible impregnated or soaked paper (e.g. bitumen, oil and wax paper)
Plastics	<ul style="list-style-type: none"> - Moulded parts PE, PP - Protective caps PE - Foils PE (with max. 5% printed area, also bubble wrap) - VCI films (recyclable) - Strapping PP (black) - Packaging made from biodegradable materials - Packaging made from renewable raw materials - Foams made of PEE and PP are only permitted in exceptional cases 	<ul style="list-style-type: none"> - Plastic mixtures - Rubber compounds - Metal-plastic laminates - Incompatible impregnated films - Polyamide strapping (blue) - Polyamide strapping (green) - Foams PS
Metals	<ul style="list-style-type: none"> - Steel also galvanised or lacquered - Aluminium 	Tinned metals (e.g. tinplate)
Wood*	<ul style="list-style-type: none"> - Unimpregnated solid wood and plywood - Wood wool 	<ul style="list-style-type: none"> - Chipboard - Coated or lacquered wood**
Textiles	<ul style="list-style-type: none"> - Cellulose fibres (cotton, sisal, hemp) 	Wax linen
Glass	Only if absolutely necessary for reasons of chemical compatibility with the filling material.	Glass wool
Minerals	<ul style="list-style-type: none"> - Active sand - Perlite - Silica gel - Vermiculite 	Note: not in the form of fibres

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*) If in urgent special cases it is unavoidable to use packaging material from this column, this is temporarily possible by prior arrangement with the responsible departments.



**) Use of wood in the area of shell construction must be checked in advance by the responsible logistics planning department and the supplier must be informed in writing (fire hazard).

4.2 Packaging requirements

4.2.1 General requirements

Regardless of the type of packaging (disposable or reusable), the following requirements must be met:

- Damage-free delivery of parts (no impairment of quality) under the expected climatic conditions (temperature, relative humidity) over the entire transport route (incl. storage until the time of removal from the packaging at the consumer's premises).
- Compliance with purity requirements
- Sufficient protection of the packed parts against humidity, corrosion/oxidation, electrostatic discharge (ESD), UV radiation, dust or abrasion (any quality impairment) and marking of the packaging by ISO symbols (symbols for "maximum load", "top", "protect from wetness", etc.).
- ESD protection of the components - the supplier must always comply with the latest state of the art. In the event of non-compliance with these requirements, the supplier will be invoiced for all costs and any subsequent costs that may arise at a later date. Minimum requirements are always the latest version of the following standards, e.g. VDA 4504 and DIN EN 61340-5-1.
- Sufficient transport protection and stability of the packaging
- Problem-free unloading during rear unloading with forklift truck
- Ergonomic parts removal by the user
- Compliance with current EU occupational health and safety directives and national occupational health and safety regulations
- Optimal utilization of the means of transport (truck, container, etc.)
- Compliance with the specified standard dimensions and compatibility with VDA/AIAG KLTs
- Optimum utilization and optimum filling level of all load carriers
- Use of separable and recyclable materials
- Labelling of the packaging units as prescribed or agreed upon
- RFID tags must be designed in such a way that they remain damage-free - neither physically, chemically nor in terms of data.
- The loading unit must be dynamic (during transport by ship, plane, truck or forklift) and at least 2-fold (1+1) stackable with itself. The number of layers of sub-packaging within the loading unit is irrelevant.
- The maximum permissible weights per packaging unit are listed in the current shipping instructions (as of 11.11.2021).

4.2.2 Component-specific requirements

Due to their design and function, the different component groups also have different requirements with regard to their transport and storage protection. The following table lists the risks and the possibilities of damage to the components. Based on this, recommendations and suggestions are given for the structure and design of the packaging, whereby a combination of several measures may also be necessary. The recommendations generally refer to the components mentioned in the scope of parts. These must be taken into account when planning and producing the packaging. This applies to universal and special packaging.

Component scope	Risks	Requirements
Fuel and oil-carrying parts e.g. pipes, lines, fuel distributor strips	Dust, dirt, damage to sealing surfaces	PE film or PE bag and seal all openings (plug or cap).
Water- and clean air-carrying parts e.g. pipes, hoses	Dust, dirt	PE film or PE bag and seal all openings (plug or cap).
Parts with machined surfaces (sealing surfaces, visible surfaces), e.g. cylinder head, crankcase	Impact points, corrosion, dust, dirt	Intermediate layers, parts must not abut, surface protection required
Mechanically non-loadable parts e.g. piston rings	Breakage, change in dimensional accuracy	Low stacking height in the container
Sandblasted blanks e.g. housing	Moisture, flash rust, corrosion	VCI paper, surface protection min. for 3 months
Parts made of polyamide with moisture indicator	Drying out, breakage	PE bag and removal notice
Bulk material and standard parts e.g. screws	Mixing, dirt, damage	PE bag or cover/lid
Special components e.g. pumps	Dust, dirt, foreign bodies	PE bags or sealing the openings, abrasion-resistant separators
Parts with complex contours e.g. ZSBs	Damage	Special packaging
Electrical parts e.g. control valves, pressure sensors	Vibration, impact points, short circuit	Possibly ESD protection, deep-drawn blisters, closed containers or bags.

4.3 Corrosion protection

If there is a risk of corrosion in the shipping process, e.g. in the case of increased climatic stresses or long transport times, appropriate protective measures must be taken.

Wet preservation or the use of VCI film/paper or intercept technology should be provided as corrosion protection measures. Proven preservation oils can be found in the list of approved packaging materials. In the case of higher protection requirements of the components, additional or, in the case of part volumes where wet preservation is not possible, alternative corrosion protection in the form of VCI film, VCI paper or intercept technology must be provided. On the basis of the agreed delivery conditions and taking into account the individual climatic stresses of the shipping process, the corrosion protection measures are to be agreed between the customer and the supplier. For this purpose, a sample packaging with the selected corrosion protection measures is assessed, adjusted if necessary and approved. The quality assurance or process and logistics planning department responsible for the area must be involved in the decision-making process. Further information on this topic is described in instruction AN_08_01_13_en - Corrosion protection and coating systems.

4.4 Exemption

If specific packaging requirements necessitate deviations from these packaging instructions, the responsible departments for warehouse logistics must be consulted for productive material as well as for raw materials and supplies. For spare parts, coordination with the sales department is required.



Any deviation from the packing guidelines according to this standard requires a written exemption by STA.

5 Applicable/ additional documents

- DIN 6120 ff Plastic packaging materials and supplies
- VDA 4902 Goods tags (barcode-capable)
- VDA 4994 Container label
- VDA 4504 electrostatically dissipative small charge carrier system
- DIN EN 61340-5-1 Protection of electronic components against electrostatic phenomena - General requirements.
phenomena - General requirements.
- AN_15_01_20_en - Supply Chain & Logistics Guideline
Steyr Automotive GmbH load carrier standard
- Shipping instructions of STEYR Automotive GmbH. Status 11.11.2021
- AN_08_01_13_en - Corrosion protection and coating systems

6 Changes

V1.0 New creation

7 Distributor

Steyr Automotive GmbH Intranet

8 Attachments

Not documented

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