



# PACKAGING INSTRUCTIONS

GOLDHOFER GROUP

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## **1 General information**

### **1.1 Purpose of the general packaging instructions**

The purpose of these packaging instructions is to make all our suppliers aware of our requirements and their responsibilities. Logistical, administrative and organizational requirements must be complied with to ensure smooth logistics processes between suppliers and the Goldhofer Group. Selecting suitable packaging for delivered material plays a significant role when it comes to meeting these requirements. Uniform standards, which are explained in these packaging instructions, are intended to guarantee a smooth flow of materials between external suppliers and the Goldhofer Group, creating an advantage for both in terms of cost-effectiveness, ergonomics and quality. The Goldhofer Group stands for the sustainable and environmentally aware use of resources and therefore maintains a management system according to ISO 14001 Environment and ISO 50001 Energy. The requirements of the German Federal Motor Transport Authority (KBA) are also binding on the Goldhofer Group for traffic safety.

### **1.2 Scope**

These packaging instructions apply to all deliveries to the Goldhofer Group, unless there are deviating agreements that are approved by the Goldhofer Group. These requirements must be complied with at all time to ensure a smooth process for both parties.

Failure to comply with the packaging instructions may lead to additional expense for the Goldhofer Group from handling, repacking and the disposal of recyclable materials, which may be billed to the supplier.

### **1.3 General requirements for delivery**

It is the responsibility of the supplier to ensure, both internally and externally, that all the parts that are supplied are properly and adequately preserved, protected and packed so that they reach their destination at the Goldhofer Group safely.

The supplier must take national and international law into account in addition to the specifications in these packaging instructions.

General requirements for delivery:

- Compliance with the delivery date specified by the Goldhofer Group
- Parts must meet the required quality standards of the Goldhofer Group
- Unloading must be simple, rapid and safe
- Parts must be easy to remove/optimum handling
- Loading units must be formed rationally

- Identification must be clear with standardized marking
- Loads must be adequately secured for transport
- Load carriers must be stackable
- Space must be utilized to the greatest possible extent (both load carrier content and loading area on the transport vehicle)
- Quality, shape and volume must be stable
- Delivery and packaging must be environmentally friendly and use minimum resources
- Delivery must be in clean packaging only
- The specified standard dimensions for load carriers including packages must be complied with
- Any necessary corrosion protection must be provided
- Any necessary ESD (electrostatic discharge) protection must be provided

## 1.4 Quantity fulfillment

Quantity fulfillment refers both to the total quantity of the order (procurement lot size) and to the filling quantity of the individual load carriers and packages. Over- and underdeliveries should not be made. Any deviating agreed over- or underdelivery tolerances must be observed.

## 2 Delivery instructions

### 2.1 Delivery

When a supplier delivers goods to the Goldhofer Group, the delivery address/unloading point must always be clearly and unambiguously stated on all waybills.

For deliveries to Goldhofer AG Memmingen, the following points must always be observed:

- Delivery address: GOLDHOFER  
Aktiengesellschaft  
Wareneingang  
Goldhoferstraße 2a  
87700 Memmingen/Germany
- Times that deliveries are accepted:

Mon – Thu	07:00 – 09:00
	09:15 – 12:15
	13:00 – 15:30
Fri	07:00 – 09:00
	09:15 – 12:15
- Type of unloading: Rear unloading (preferred), side unloading

For deliveries to Airport Technology GmbH, the following points must always be observed:

- Delivery address: Goldhofer Airport Technology GmbH  
Wareneingang  
Parkstr. 19 – 21  
73760 Ostfildern
- Times that deliveries are accepted: Mon – Fri 07:00 – 09:15  
09:40 – 12:30  
13:00 – 14:00
- Type of unloading: Side unloading (preferred), rear unloading

## 2.2 Acceptance subject to reservation

The Goldhofer Group only accepts goods subject to subsequent verification of quality and quantity. When goods are received, only the integrity of the shipping packaging and the number of packages and loading units are confirmed. If obvious defects are identified, they are noted on the waybill or the delivery note.

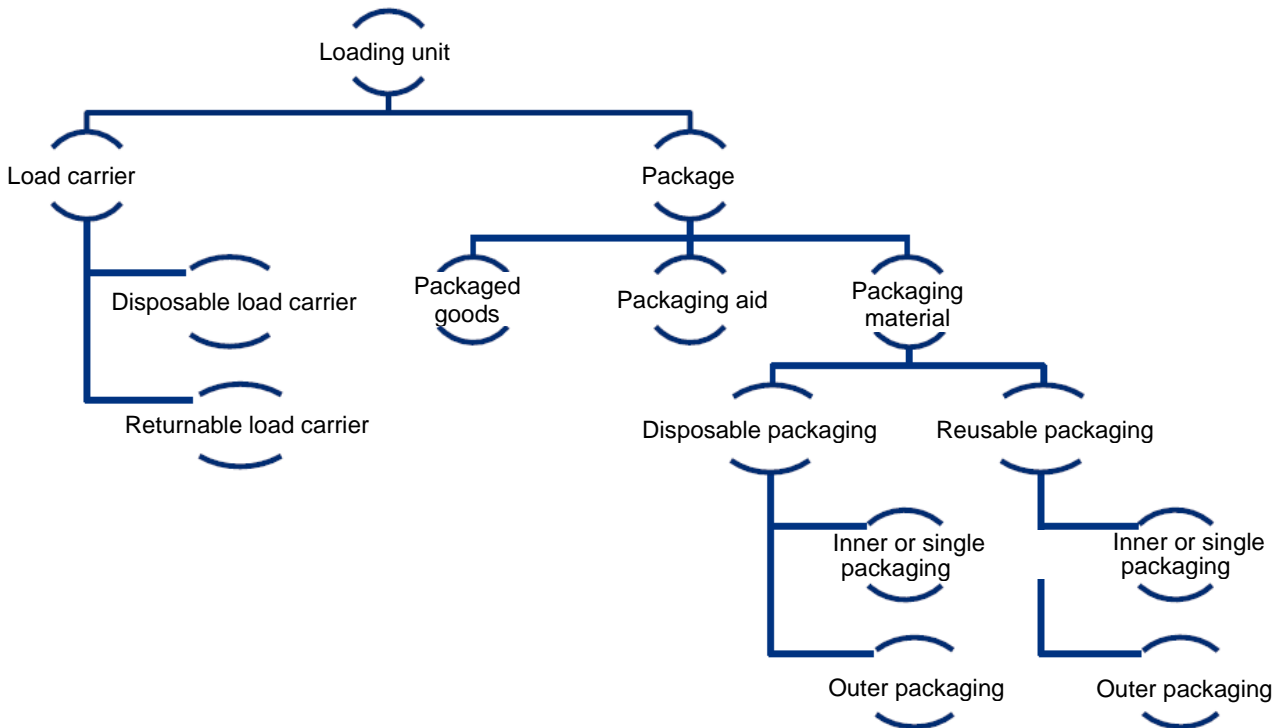
## 2.3 Refusal to accept goods

The Goldhofer Group reserves the right to refuse to accept goods in the following cases:

- Transport damage and defects
- Wrong delivery
- Delivery outside the goods acceptance times
- Defects in the freight documents (missing, incorrect or incomplete freight documents)
- Damage to load carriers
- Incomplete delivery
- Deviation from these packaging instructions

## 3 Definition of terms

### 3.1 Key



#### **Packaged goods**

= Goods in the package

#### **Packaging material**

= Material used for the packaging of other goods

#### **Packaging aid**

= All products used in packaging in addition to a packaging material.  
(used to close and secure a shipment)

#### **Package**

Packaged goods + packaging material + packaging aids = package

#### **Packaging**

= Enclosure of packaged goods for the purpose of protection, storage and transport.

## **Inner or single packaging**

= By fixing, stabilizing and cushioning, the inner packaging protects the product inside the packaging from damage during transport and storage.

## **Outer packaging**

= Combines several inner packages into one unit

## **Disposable packaging**

= Packaging for single use with subsequent disposal

## **Reusable packaging**

= Packing for multiple use

## **Load carrier**

= Equipment for transport, handling and/or protection of the load

## **Loading unit**

= Packaging containing goods (e.g., pallet) + contained goods

# Packaging functions

Protection

Storage

Transport

Information



### **3.2 Protection functions of**

#### **packaging:**

Protection against changes in quantity and quality, the environment and the people involved in the process.

#### **Storage:**

Space-saving and safe storage, e.g., by stacking load carriers.

#### **Transport:**

The packaging should be designed so that transport units can be formed and the transport vehicles can be optimally utilized. Attention must also be paid to securing the load.

#### **Information:**

The packaging information includes identification aids for the packaged goods, as well as any necessary precautions and instructions for proper handling of the package.

## **4 Packaging design**

### **4.1 Packaging specification**

The supplier's packaging is of great importance for the Goldhofer Group's incoming goods process. A safe, economical and environmentally friendly incoming goods process is significantly affected by the supplier's packaging. The Goldhofer Group therefore specifies in these packaging instructions the criteria that must be met by the supplier when delivering to the Goldhofer Group. In addition to the requirements defined generally in these instructions, deviating requirements can be agreed with the consent of the Goldhofer Group. The Goldhofer Group reserves the right to adapt the packaging instructions to current circumstances at any time.

### **4.2 General requirements for the packaging material**

In addition to the delivery requirements provided above under "General requirements for delivery", suppliers must also comply with requirements for the packaging material:

- It must be easy to use and safe to handle
- Contents must be clearly marked
- The health of the persons involved in the process must be protected
- Load securing requirements must be complied with
- Load carriers must be stackable
- Packaging must be clean

- Packaging must be stable
- Unnecessary packaging must be avoided
- Coated parts must be protected (e.g. by paper padding)
- Intermediate layers of cardboard must be used on pallets
- The materials that are used must be eco-friendly and sustainable

### **4.3 Special requirements of the Goldhofer Group**

Delivery is only allowed on Euro pallets, because of the technical equipment at the Goldhofer Group. Deliveries on one-way pallets or in gitterboxes are only possible after prior consultation with the strategic purchasing department at the Goldhofer Group.

#### **4.4.1 Serialization labeling**

Parts that require serial numbers must be delivered to the Goldhofer Group with a corresponding label (type plate) for each item to ensure a smooth incoming goods process at the Goldhofer Group. Ideally, this serial number should also be provided as a QR code. The position of the serial number on the item must be such that our employees in the incoming goods department can read the serial number or scan the code without any further handling processes (e.g., unpacking or lifting out).

#### **4.4.2 Batch marking**

Parts that are relevant in terms of batch traceability must be delivered to the Goldhofer Group by the supplier with relevant marking to ensure a smooth incoming goods process at the Goldhofer Group. Ideally, this batch number should also be provided as a barcode. The position of the batch number on the item(s) must be such that our employees in incoming goods and/or production can read the batch number or scan the code without any further handling processes (e.g., unpacking or lifting out).

















### **4.5 Dangerous goods**






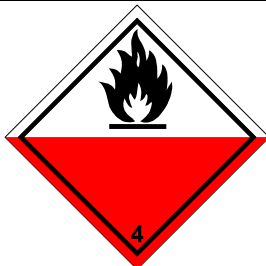
Dangerous goods are substances that pose a real danger to people, animals, the environment or public order and safety when transported in public places (road, rail, water, air).

If dangerous goods are delivered, international (e.g. ADR, IATA DGR, ADN) and national (e.g., the German law governing the transport of dangerous goods: GGBefG) regulations regarding the labeling and transport of dangerous goods must be complied without exception. The corresponding safety data sheets must be submitted to the Goldhofer Group prior to delivery of dangerous goods.

The carrier must be qualified to transport dangerous goods (ADR certificate). The vehicle must also have special ADR approval for the transport of dangerous goods.

The load carriers must be marked with the internationally applicable hazard symbols.

			
Environmentally hazardous substances	Environmentally hazardous substances	Various hazardous substances and objects	Various hazardous substances and objects
			
Non-flammable, non-toxic gases	Non-flammable, non-toxic gases	Non-flammable, non-toxic gases	Flammable (oxidizing) substances
			
Toxic gases	Flammable liquid substances	Flammable liquid substances	Flammable liquid substances
			
Corrosive substances	Corrosive substances	Flammable gases	Flammable gases

			
Organic peroxides	Organic peroxides	Flammable solids, self-reactive substances and desensitized explosives	Flammable solids, self-reactive substances and desensitized explosives
			
Substances liable to spontaneous combustion	Substances liable to spontaneous combustion		

## 4.6 Weight restrictions

The Goldhofer Group applies a general weight limit of 1000 kilograms per Euro pallet. Exceeding this restriction must be agreed with the Goldhofer Group in advance. For one-way pallets, a different weight may apply, after agreement in advance with the strategic purchasing department at the Goldhofer Group.

## 4.7 Height restrictions

A maximum height of 2000 mm for a loading unit must not be exceeded. Any necessary deviations must be agreed with the strategic purchasing department at the Goldhofer Group.

## 4.8 Approved load carriers

In order to ensure an optimal delivery, collection and storage process at the Goldhofer Group, suppliers must deliver all goods not sent as packages on Euro pallets. Exceptions to this (e.g. due to item dimensions) are only permitted after consultation/agreement with the strategic purchasing department at the Goldhofer Group.

Push-on frames and collars made of solid wood may be used for the pallets at any time.

Up to four push-on frames may be used per pallet.



## Euro pallet (EPAL1)

Length: 800 mm

Width: 1,200 mm

Height: 144 mm

Weight: approx. 25 kg

Markings according to EPAL standard



## Gitterbox

Gitterboxes may only be used after prior consultation with the strategic purchasing department at the Goldhofer Group.



## One-way pallet

One-way pallets may only be used after prior consultation with the strategic purchasing department at the Goldhofer Group.

One-way pallets must be made of solid wood.

One-way pallets may also only be used if the packaged goods significantly exceed the dimensions of a Euro pallet in length and width.



#### 4.9 Packaging materials

The Goldhofer Group places great importance on compliance with the approved packaging materials to make handling economical and safe for the persons involved in the process. Energy and environmental aspects are also of fundamental importance to the Goldhofer Group and must be taken into account accordingly by suppliers.

<b>Material</b>	<b>Allowed materials</b>	<b>Materials not allowed</b>
<b>Composites</b>	None	Composite materials are not allowed
<b>Plastics</b>	Polyethylene (PE) Polypropylene (PP) Polyethylene terephthalate (PET)	Styrofoam m PVC
<b>Strapping</b>	Preferably strapping made of plastics	Metal straps
<b>Filling materials</b>	Preferably paper and corrugated board	Chips from any substances Foams
<b>Wood</b>	Preferably according to IPPC standard	Excelsior Pressed particle boards/pallets (Inka pallets) Impregnated, painted and coated wood Wood from pressboard

For all packaging materials, care must be taken to use as few resources as possible and to pack in as environmentally friendly a manner as possible. As a general rule, reusable packaging is preferable to disposable packaging.

#### Exception for packages

In the case of packages, in addition to vibration-resistant packaging, care must be taken to ensure that a package weighs no more than 20 kilograms so that an ergonomic working procedure can be ensured by all persons involved in the process. Packages weighing more than 20 kilograms must be delivered on a Euro pallet. Similarly, clasps and other metal fasteners are not permitted on packages in order to prevent injury when unpacking and handling packages. Packages should therefore only be closed with adhesive tape.



To ensure resistance to pressure and impact, appropriately sized cardboard packaging must be used for packaging.

## **5 Accompanying documents**

The supplier is responsible for the documents being correct, complete and clear.

### **5.1 Functions of the waybill**

Function as information carrier: Information about the nature and quantity of the freight

Function as evidence: Evidence that the carrier has checked the goods and packaging are in good condition at the time of acceptance and whether the number of packages corresponds to the information on the waybill

Function as receipt: Serves as a receipt for the acceptance process

The waybill must contain the following data as a minimum:

- Sender
- Recipient
- Carrier
- Attached documents
- Place of delivery of the goods
- Place and date of acceptance of the goods
- Total weight
- Number of packages
- Quantity and type of loading equipment used
- License plate

### **5.2 Functions of the delivery note**

- Document demonstrating that a delivery of goods has been duly made
- Information on the type and scope of the ordered goods
- Tool to check performance as per the order

The delivery note must contain the following data as a minimum:

- Supplier with address and contact person
- Consignee
- Delivery address
- Delivery date
- Order number/order name
- Order number of the consignee
- Item number of the consignee
- Total number of pieces per item
- Batch and serial numbers of this delivery
- Number of pieces per load carrier
- Number of load carriers
- Number of packages
- German Federal Motor Transport Authority (KBA) approval number (if available)

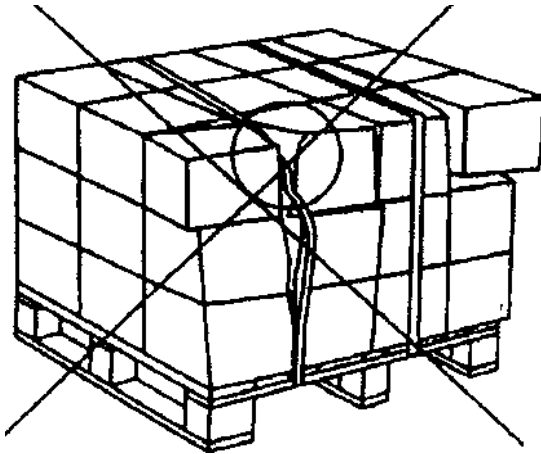
## 6 Handling and safety

### 6.1 Load securing

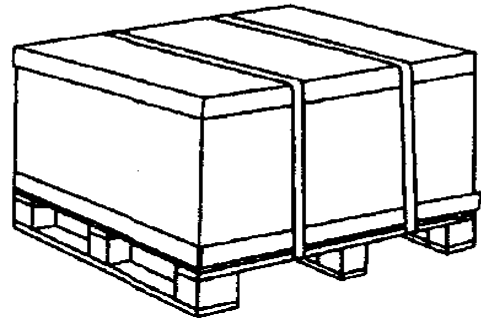
On the basis of mutual interest, care must be taken to ensure that loads are secured in accordance with the law in order to prevent damage and injury. Suppliers of the Goldhofer Group are therefore obliged to apply suitable measures for transporting goods reliably without problems.

Examples:

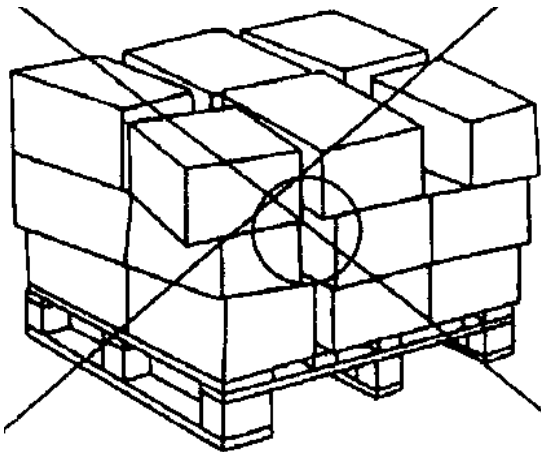
- Load securing via positive or non-positive locking
- Using straps and anti-slip beams to secure the loading surface
- Using shrink covers and stretch film
- Using tightening straps (preferably made of plastic) and edge protectors (preferably made of cardboard) for load carrier strapping
- Using wooden frames made of solid wood



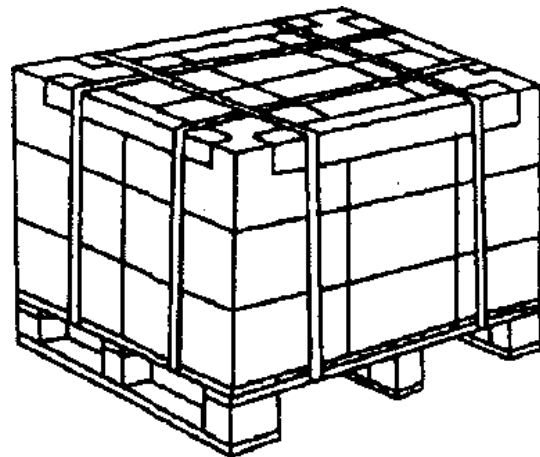
Wrong



Correct



Wrong







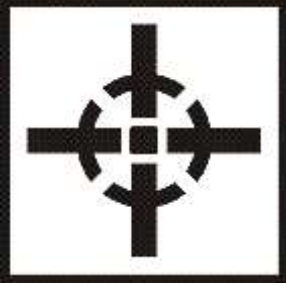


Correct

When securing a load, care must always be taken to make it as environmentally friendly as possible.

## 6.2 Symbols for handling instructions

Handling instructions for packages must be visibly attached to the outer packaging. These handling instructions should ensure that the goods are handled safely. The symbols listed below are internationally standardized according to ISO R/780 and DIN 55402.

Examples of handling symbols:

			
Top	Fragile	Protect from heat	Maximum stacking load
			
Center of gravity	Do not use forklifts	Protect from moisture	

## 6.3 Empties account

The Goldhofer Group maintains an empties account with some suppliers/forwarders to simplify delivery processes and to avoid frequent exchanges of empties. Maintaining an empties account has mutual economic and environmental benefits. Please contact [leitstand-wms@goldhofer.com](mailto:leitstand-wms@goldhofer.com) for the Memmingen site and [ralf.schlemmer@goldhofer.com](mailto:ralf.schlemmer@goldhofer.com) for the Ostfildern site for more information about empties management at the Goldhofer Group.

## 6.4 Markings on the loading unit

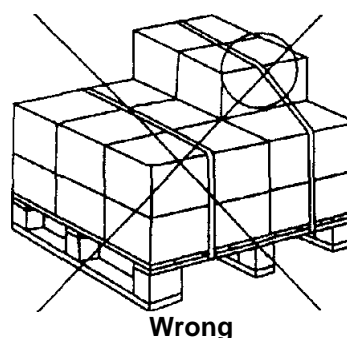
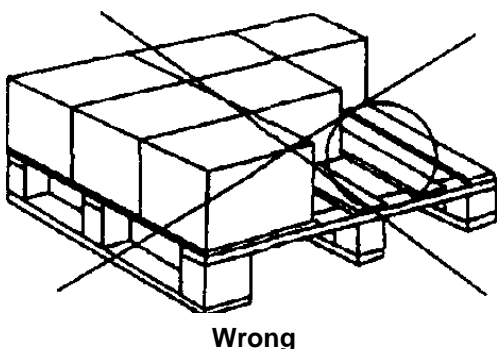
The following markings must be visibly attached to the side of each loading unit by the supplier and must be weatherproof:

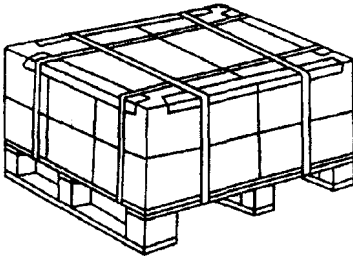
- Packing list for more than one load carrier or package (Appendix 1)
- Delivery note
- Loading unit number
- Handling instructions for unloaders
- Marking if the pallet is a mixed pallet (Appendix 2)

Markings must be attached in such a way that they can be easily located by all persons involved in the process.

## 6.5 Positioning of packaged goods and package

The packaged goods must be arranged in the packaging so that the weight is distributed as evenly as possible. Care must be taken to ensure that the packaging material corresponds to the size of the packaged goods. Possible cavities within the packaging material must be filled to fix the packaged goods and to prevent slippage. Packaged goods must be positioned on a load carrier in such a way that the weight is also evenly distributed on the load carrier. Similarly, the packaged goods must not exceed the surface of the load carriers.

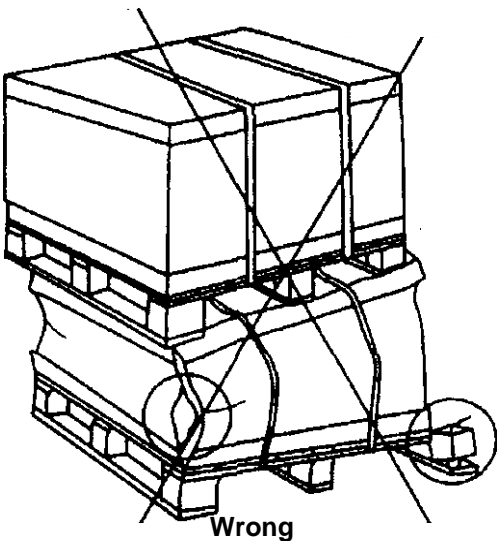




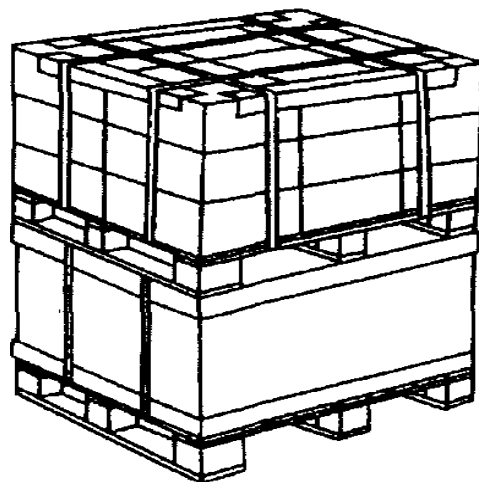
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## 6.6 Stackability of loading units

Each loading unit should be suitable for double stacking, if possible. When stacking load units, make sure that the bottom load unit is not damaged due to insufficient stability or excess weight.



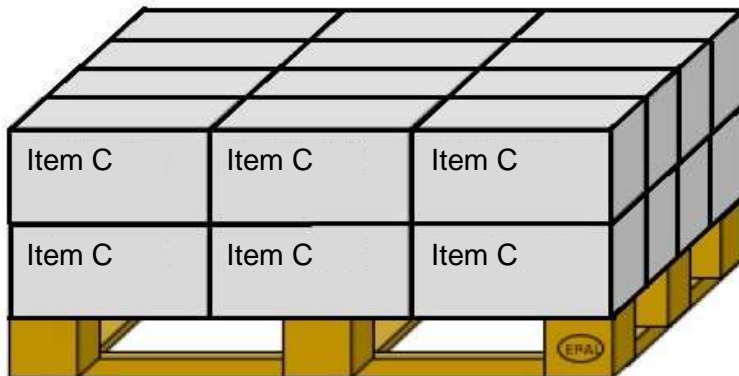
Wrong



Correct

## 6.7 Unmixed pallets

When receiving goods, the Goldhofer Group prefers delivery of goods in unmixed pallets, i.e. where a loading unit contains only one item type.



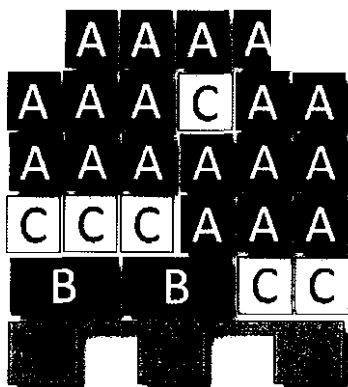
Example of an unmixed pallet

## 6.8 Mixed pallets

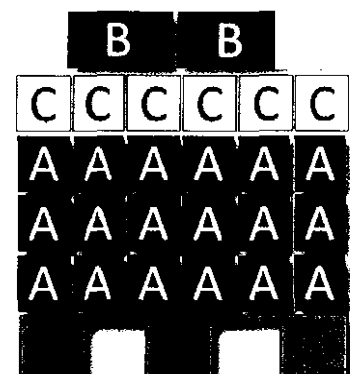
If it is not reasonable to use an unmixed pallet (e.g. several different small part items), a mixed pallet must be put together. Care must be taken to ensure that the mixed pallets are structured correctly (see Appendix 2).

Rules:

- Distribute packages unmixed as far as possible
- Do not distribute packages across different layers on one pallet
- Heavy packages go in the lowest level



Wrong



Corre

Complying with the above rules, the higher quantity of packages should be packed in the bottom layer in this example. (Avoids greater effort for repacking)

In addition, for mixed pallets, items must be clearly separated and all packages must be correctly labeled for clear identification. (Item no./Quantity/if applicable, serial number)

## **7 Requirement to reduce packaging waste**

### Avoidance:

Attention must be paid to the packaging waste that is generated, right from packaging the goods. Packaging materials must therefore be kept to the absolute minimum necessary.

### Reduction:

Packaging waste can be reduced by using reusable packaging, for example.

### Recycling:

Using environmentally compatible and recyclable materials means that the Goldhofer Group can return the materials to the recycling cycle.





Appendix 2:

**Mixed pallet**