

Intelligent Drivesystems, Worldwide Services



GB

VPH

Supplier packaging manual, external

Guideline



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Foreword

This is a dynamic manual, and is adapted to the current requirements of Getriebebau Nord GmbH & Co. KG (referred to in the following as NORD) in accordance with requirements. All of the rules for delivering your goods to NORD worldwide can be found in this manual. The rules apply as supplementary contractual agreements to the general business terms and conditions. These do not just apply to you as an external supplier, but also to our associated companies.

The purpose of these rules is to achieve a problem-free flow of material between you as a supplier and NORD. It is ideal for NORD to have packaging that can be used directly for internal transportation and therefore reduces the amount of handling within the company.

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1 General packaging requirements

Our goal is to define the packaging that is from an ecological and economical point of view, in order to restrict the amount of packaging that is required and the packaging waste to a necessary amount. If possible, the packaging should be usable for storage, supplying the global installation locations and using at the assembly lines.

The basic rules that follow apply to the nature of the delivery, independently of the choice of packaging.

- Damage-free delivery of products
- Delivery always in clean packaging
- It must be ensured that two load carriers can be stacked on top of each other
- Problem-free unloading using industrial trucks must be possible
- Adherence to specified standard dimensions and weights
- The products must be protected from mechanical, chemical and environmental effects
- The products may not extend beyond the base of the load carrier
- Packing units should contain the same product; if this is not possible the packing units must be marked "Mixed shipment"
- Mixed shipments must be packed and differentiated in such a way that quick identification is possible and repacking is not required (see wrong/correct at end of page)
- Inside the packaging the products must be protected in such a way that they cannot come into contact with each other
- The filling level inside the packing units must be dense enough to avoid cavities
- It must be possible to remove the products easily and safely

Wrong								Correct															
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C	C	C	C	C	C	C	C	B	B	B	B	C	C	C	C	A	A	B	B	C	C	D	D
B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	A	A	B	B	C	C	D	D
A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	C	C	D	D

1.1 Determination of packaging

The packaging is always determined by the supplier on the basis of the rules in the NORD packaging manual. It is the customer's responsibility to implement the rules sensibly. If a rule prescribed by NORD cannot be implemented sensibly (e.g. materials with a basic size of larger than 1200x800 mm), this must be coordinated with NORD.

NORD is entitled to make changes to the packaging at any time, and make the packing to be used mandatory for the supplier, particularly for sensitive parts that require special protection.

If rules or prescribed packaging are not complied with, NORD reserves the right to invoice the supplier for additional costs that are incurred for handling or repackaging work or waste disposal in the form of a handling charge. The supplier shall also be held liable for quality reductions as a result of soiled or inadequate packaging. Transport damage that is not accepted by insurers because of inadequate packaging shall be charged to the supplier. The seller is free to insure the shipments at his own cost.

We will not accept insurance costs that are billed to us. The supplier must notify us of changes to the existing type of packaging and the batch size beforehand and have them confirmed by us.

1.2 Load carriers

The following are accepted as load carriers:

- Exchangeable in Euro cage pallets (Dimensioning max. 1500 kg, basic size 1240x835 mm)
- Exchangeable Euro-pallet (Dimensioning max. 1000 kg, basic size 1200x800 mm)

The permissible overall weight (gross weight) per load carrier at NORD is 1000 kg.



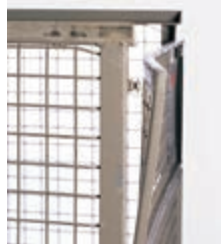




The permissible overall height (from base to top edge of load) at NORD is 1000 mm.

The supplier must comply with the maximum height required by NORD unless otherwise agreed.

1.2.1 Euro cage pallet

Characteristics	
Dimensions:	1200x800 mm
Permissible gross weight:	1000 kg
Requirements:	Euro cage pallet in accordance with DIN 15155
Stackability	The Euro cage pallets must be stable and in good condition so that reliable and safe stacking is possible.
Prerequisites for use:	The Euro cage pallet must be in perfect condition, without any external damage whatsoever such as a bent frame, bottom or mesh, front flap that will not open, missing parts etc.


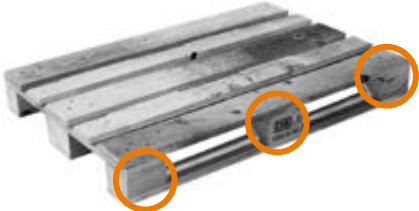




It must be ensured that the Euro cage pallets are exchangeable. If the supplied Euro cage pallets have any of the defects shown, they must be removed.

<p>①</p>  <p>Corner posts or angle supports deformed.</p>	<p>⑤</p>  <p>Board missing or broken.</p>
<p>②</p>  <p>Front flap cannot be opened or closed.</p>	<p>⑥</p>  <p>General condition is so poor because of soiling or rust that materials may be contaminated.</p>
<p>③</p>  <p>Feet or base frame bent, meaning that the cage can no longer be safely stacked or will not stand evenly on the feet.</p>	<p>⑦</p>  <p>The essential markings (EUR, rail company symbol, Y number) are missing or not clearly legible.</p>
<p>④</p>  <p>The mesh has broken, meaning that the wire ends are protruding towards the inside or the outside.</p>	

1.2.2 Euro-pallet

Features	
Dimensions:	1200x800 mm
Permissible gross weight:	1000 kg
Requirements:	Euro pallet in accordance with DIN 15146
Stackability:	The Euro-pallet must be stable and stackable in a secure and safe way.
Prerequisites for use:	The Euro-pallet must be in perfect condition.

It must be noted that Euro-pallets are exchangeable. If the supplied Euro-pallets have any of the defects shown, they must be removed.

<p>①</p>  <p>Bottom or top edge boards are so splintered that more than one nail or screw shaft is visible.</p>	<p>④</p>  <p>The EUR marking and the symbols of a rail/ palette organisation are missing or difficult to read.</p>
<p>②</p>  <p>A board is missing.</p>	<p>⑤</p>  <p>A block is missing or is so split that more than one nail is missing.</p>
<p>③</p>  <p>A board is broken across or at an angle.</p>	<p>⑥</p>  <p>See point 1</p>

Other features: poor general condition

- Load-bearing capability is no longer guaranteed (large areas of splintering, rotting).
- The soiling is so heavy that material can be contaminated.
- Large areas of splintering present at several blocks.
- Non-permissible components have obviously been used (e.g. blocks too small, boards too thin).
- Typical markings are missing (DB, EPAL etc. / see 2.2.4 Wood materials)

1.2.3 Disposable pallet

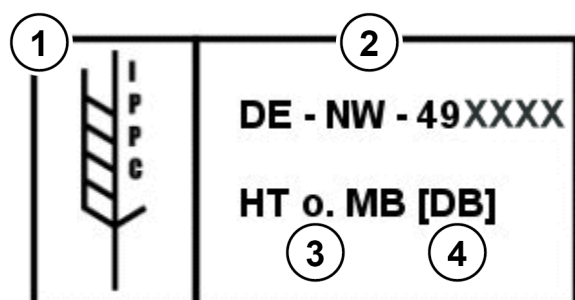
Features	
Dimensions:	800x600 mm (1/2 Euro palette)
Permissible gross weight:	1000 kg
Requirements:	Disposable pallet made from wood or plastic
Stackability:	The disposable pallet must be stable and stackable in a secure and safe way.
Prerequisites for use:	The disposable pallet must be in perfect condition.

Only disposable pallets with dimensions of 800x600 are accepted.

1.2.4 Wood materials

Packing materials made from solid wood require treatment and marking in accordance with the IPPC (International Plant Protection Convention).

IPPC marking requires the following information:



1. Seed head symbol with IPPC letters
2. Approval number of company with ISO code of country and region ID
3. Treatment method (HT = Heat treatment or MB = fumigation with methyl bromide)
4. If necessary, DB (debarked) for debarked wood (not required by IPPC standard).

1.3 Weight restrictions

The maximum permissible weight of packing units may only be exceeded if adherence to the maximum permissible weight is impossible. The overall weight must be visible and clearly legible on the packing unit and the load carrier.

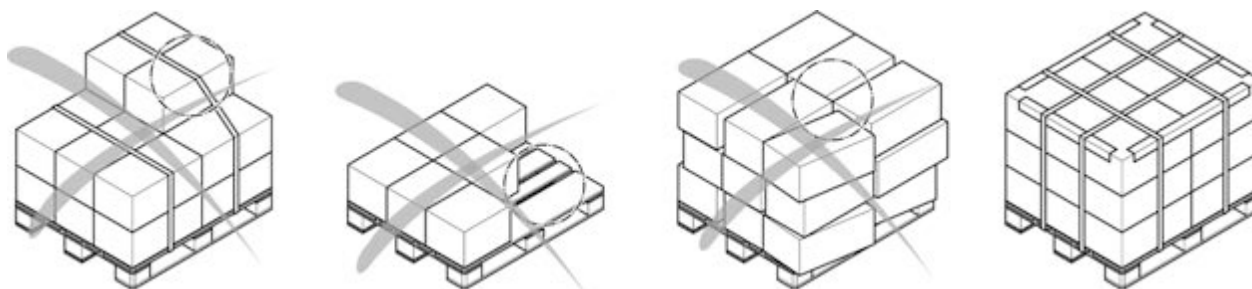
1.3.1 Packing units lifted manually

Packing units such as packages, packets, small load carriers etc. that are lifted by hand may not exceed the permissible maximum weight of 15 kg in order to minimise the risk of injury to NORD and supplier employees. Heavier packing units must be supplied on a load carrier that is intended for this purpose and defined in the packaging manual.

1.4 Positioning of packed material and packing unit

The weight inside the packaging and on a load carrier must be arranged such that it is evenly distributed. All hollow spaces inside the packaging must be filled to prevent the goods from sliding during transportation and handling. The size of the packaging should therefore correspond with the side of the goods. The basic size of the load carrier must not be exceeded by the packing units. It must also be ensured that the top layer forms a level surface that allows two pallets to be stacked on

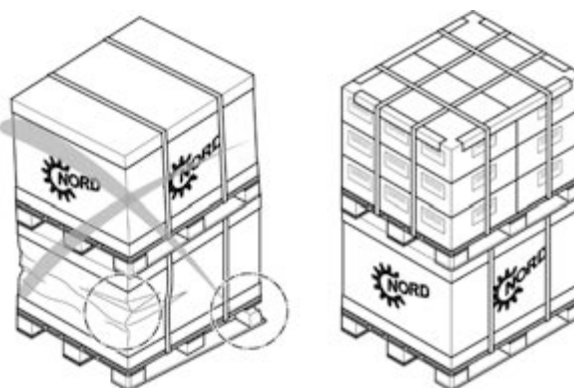
top of each other. If this is impossible because of the order quantity, the packing unit must be filled up with empty containers and marked accordingly.



1.4.1 Stackability

It must be ensured that two load units can be stacked on top of each other without any adverse effects, so that pallets can be stacked on top of each other with or without stacking aids, for example.

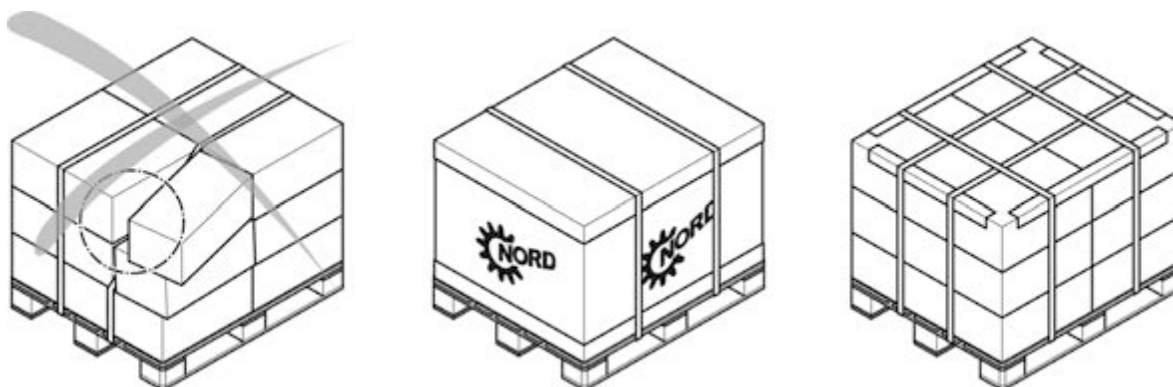
If this is not possible, the load units must be marked accordingly.






1.5 Securing on the load carrier

The following are permitted for securing to load carriers:

During the palleting procedure	After palleting
Compound stacking	Nets, frames, edge protection
Paper, friction mats between the layers	Rubber bands, strapping
Tray formation	Shrink film, stretch film



1.6 Packing units

Name	Dimensions	Picture
Transparent stock boxes	160x100x75 mm 230x150x125 mm 350x220x145 mm	
Small load carrier 3215 Small load carrier 4315 Small load carrier 6415	300x200x147 mm 400x300x147 mm 600x400x147 mm	
K5 K6	785x585x700 mm 1170x770x760 mm	

Addition: Cardboard boxes that will fit into the above-mentioned transparent stock boxes and small load carriers or will fit onto the load carriers are also basically permissible as a packing unit.

1.7 Filling materials / internal securing

Filling materials are used to fix and pad out the goods inside the packaging such as packing paper, bubble wrap etc.

Polystyrene and Flo-Pak are not allowed!

1.8 Corrosion protection

Corrosion-sensitive goods and all machined and polished surfaces, particularly those of cast parts, require preventive corrosion protection measures on the material and using appropriate packaging over a period of at least 12 months.

Corrosion protection film such as VCI film or VCI paper that can be taken for normal recycling and does not contain any substances that are hazardous to health is suitable for protecting the parts.

These materials contain chemical substances (VCIs) that gradually evaporate and form a protective film on the surface. The VCI film must therefore be in closed packaging and be properly sealed itself in order to safeguard the effectiveness of the corrosion protection. In a normal case it is sufficient if the parts are wrapped in the film. Pulling the film over the goods is insufficient. However, the spacing should be no more than 30cm, and wet parts must be dried before packing. The functionality or the appearance must not be adversely affected by the corrosion protection packaging that is chosen.

The supplier must implement the corrosion protection measures required by NORD unless otherwise agreed. Non-compliance will result in the supplied parts being deemed defective, and will be reprehended to the supplier.

1.9 Cleaning and disposal of load carriers and packing units

The checking for functionality and disposal of unusable load carriers and packing units shall take place before returning them to the supplier by NORD. This must also be carried out by the supplier if necessary.

Products must generally be packed in clean packing units and supplied on exchangeable and clean load carriers. Cleaning before re-use is therefore the responsibility of the supplier or a service provider appointed by the supplier. The cleaning of packing units and load carriers include the removal of labels, label residue, oil, grease etc., among other things.

The owner is responsible for disposing of or repairing packing units and load carriers that are no longer usable. If the owner cannot be clearly identified (e.g. in the case of pool systems), the person in possession of the load carrier or packing units that are being disposed of is responsible for disposal and the procurement of replacements.

1.10 Electronics

The service life of electronic components can be shortened unobtrusively by electrostatic discharge (ESD) and sensitive parts can even be destroyed. The packaging should therefore be made from antistatic or earthed materials and not made from plastic packaging (e.g. stretch film, bubble wrap etc.), so that dangerous discharging is avoided during transport and storage. These preventive measures (ESD protection) are always required if electrostatically sensitive products are being transported.

1.11 Rubber and rubber compound parts

Parts made from rubber materials must be protected from negative influential factors such as heat, moisture, ozone or mechanical force and soiling by materials such as solvent or oil. The consequences of insufficient protection are hardening, softening and crack formation, for example. Certain framework conditions must be therefore complied with during packaging, transportation and storage (ISO 2230 Products made from rubber – storage directive DIN 7716).

1.12 Hazardous materials

The regulations for the transportation of hazardous substances must be observed. The supplier is liable for any damage resulting from the non-observance of the legal regulations. Only type-approved packaging (e.g. cardboard boxes, canisters) in accordance with the regulations of the individual classes in the ADR (European agreement concerning the international road transportation of hazardous materials) must be used to transport of hazardous materials.

The consignment note/delivery note must bear the relevant hazardous material information. All packing units with hazardous contents must clearly display the prescribed hazardous substance labels. Information about hazards to water must be provided. The date of manufacture and the best-before date of materials with a limited shelf life must be listed on the delivery note.

2 Identification

In order to ensure that rapid identification can take place and parts are not switched, all packaging must be marked with at least the following information: NORD part number, material name, quantity and weight. Old markings such as old labels / advice notes on Euro cage pallets and frames must be removed.

The recipient and the sender must be clearly visible from the outside of individual packages. If the consignment consists of several packages, this must also be made visible from the outside.

2.1 Identification of the smallest packing unit

The smallest packing unit should indicate the following information as a barcode to ensure identification and traceability:

1. delivery note
2. NORD order number
3. number of pieces
4. NORD part number and material designation
5. weight

2.2 Delivery documents

Each delivery requires at least the following delivery and consignment documents: Delivery note and hazardous materials sheets, if necessary. Only shipments with complete documents will be accepted.

2.2.1 Delivery note

The delivery note provides information about the supplied parts and *should* contain the following information:

1. Delivery note number
2. Name and address of sender
3. Name and address of recipient
4. Date of delivery note
5. Gross weight, net weight
6. Delivery note position
7. Contact person (name or person placing order)
8. Order number, order date and order item
9. NORD part number and material designation
10. Supplier item number
11. Delivery quantity for each item in unit of quantity
12. Number of packing units
13. Initial sample or pilot series if necessary
14. Complete delivery, partial delivery or residual delivery
15. Additional identification for hazardous materials
16. Type of load carrier (if required)
17. Batch number (if required)
18. Date of manufacture, expiry date (if required)

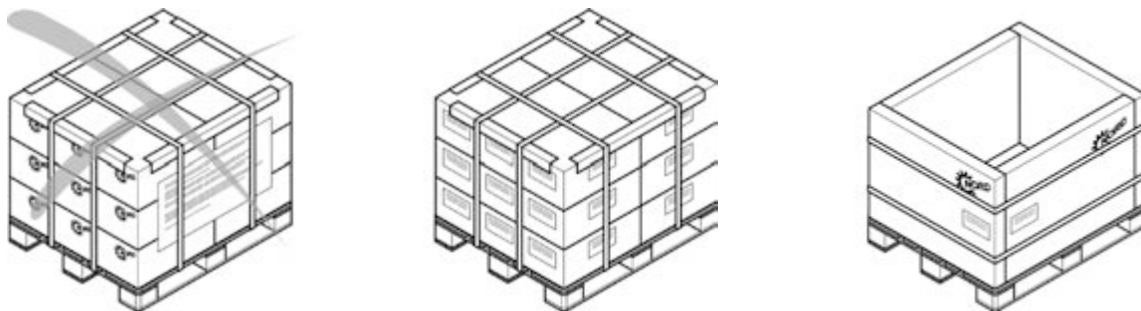
2.3 Product labels

The product labels should always contain the following information in order to ensure that they can be identified and tracked:

















1. Delivery note number
2. NORD order number
3. NORD part number
4. Quantity / number of packing units
5. Weight
6. Date
7. Recipient
8. Supplier name

2.3.1 Attaching the product labels

The product labels on Euro pallets with frames must be attached to the base frame at two adjacent sides so that they are also present when the rest of the frame has been removed. This also applies to Euro cage pallets, but in this case the product labels must be attached at the top rather than the bottom. A product label must be attached to each box / container of load carriers with cardboard boxes / small load carriers.



2.4 Symbols for handling instructions

	Fragile		Do not use handheld hooks		Top		Protect from heat (sunlight)
	Protection from heat and radioactivity		Lift here		Protect from moisture		Centre of gravity
	Do not position hand truck here		Permissible stack load		Brackets in direction of arrow		Permissible temperature range
	Do not position fork lift here		Electrostatically sensitive component		Do not damage barrier layer		Tear open here

Packing units marked in accordance with DIN 55402 and ISO R 780 standard.

3 Other

3.1 Delivery dates and ordered quantities

It is assumed that the relevant delivery dates and ordered quantities (in a delivery) will be complied with. Because of deviations in the number of units due to the production of raw castings, in individual cases a quantity deviation within the range of +/- 10% of the originally ordered quantity will be accepted. Deviations in excess of this require our written agreement and confirmation.

3.2 Notification and changes to packing units

In the event of an inquiry, please send us the packing unit (quantity) or the packing units (quantities) of the material and the type of load carrier (Euro pallet, Euro cage pallet, small load carrier, cardboard boxes etc.) and the design of the overall packaging (see example) so that we can enter them into our system. If the packing unit changes, we should be notified thereof as quickly as possible so that the matter can be coordinated. The packing units that we are notified of must be adhered to unless otherwise specified by us.

We can store up to three quantities per material with the associated key data in our system. The LHM quantity of 1 is the maximum quantity that is supplied per load carrier by the supplier, and LHM quantities 2 and 3 are the next smaller outer packaging. An example using gearwheels is shown in the following:

	LHM quantity	Units of quantity	LET
1.	600	ST	010 (1/2 Euro pallet)
2.	100	ST	005 (small load carrier)
3.	10	ST	201 (sleeve)

Re. 1.: There are 600 units on a ½ Euro palette (6 small load carriers with 100 units per ½ Euro palette)

Re. 2.: There are 100 units in a small load carrier (10 sleeves with 10 units per small load carrier)

Re. 3.: There are 10 units in a sleeve

3.3 Returns

Return consignments caused by the supplier will be returned at the risk of the supplier, taking into account the expenses incurred. Return consignments caused by the supplier are: Consignments which have been dispatched despite cancellation, non-observance of delivery date, over-delivery and incorrect delivery, missing order number, defective packaging, faulty or defective goods.

In the event of repeated return consignments caused by the supplier (at least twice), we reserve the right to either repack the goods at the supplier's cost or refuse to accept the goods.

3.4 Warranty declaration

The contractor guarantees to NORD that it will use correct packaging which complies with the minimum requirements described in the transport and packaging regulations and that the packaging material will be of perfect quality. The consent of the customer must be obtained for any necessary

deviations from these conditions. The supplier is liable to NORD for all damage resulting from defective design of the packaging and failure to comply with with these minimum requirements.

3.5 Final remark

Compliance with these directives and regulations will be checked by our goods reception department.

The following criteria will result in the issue of a complaint report, which will be included in the assessment of the supplier.

- Incorrect or missing order number
- Incorrect or missing part number
- Delivery of incorrect goods
- Missing delivery note
- Over or under-delivery of more than 10%
- Goods delivered too soon



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