



MD GROUP LOGISTICS DIRECTIVES FOR SUPPLIERS

v2. 08/2025

Introduction

MD ELEKTRONIK (including the companies in the **MD Group**) develops and produces high-quality data communication solutions for the international automotive industry.

We make high demands both of ourselves and of our suppliers.

The Logistics Directive for Suppliers is a written definition of the generally applicable logistics requirements, which **MD ELEKTRONIK** (including the companies in the **MD Group**), hereinafter referred to as **MD**, places on its suppliers. These directives are intended to inform the supplier of the key logistical processes and to ensure a fault-free material flow between the supplier and **MD**.

It applies to all suppliers.

Our aims:

- Controlled communication to ensure a continuous improvement process
- Minimization of the logistics costs along the entire supply chain
- Simplification of goods / container handling
- Appropriate component protection to minimize damage

This Logistics Directive applies both to all inquiries and to orders.

The supplier shall ensure that the supplied documents have been presented to the appropriate departments for evaluation and consideration and have been complied with.

By submitting the order confirmation, the supplier shall be obliged to comply with our logistics requirements.

Waldkraiburg, August, 2025

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1. Purpose & area of application

With this Logistics Directive, MD suppliers are informed of the logistics requirements necessary to ensure a flawless process between the supplier and MD, the customer. This directive shall be binding for all deliveries and supplements the existing contractual agreements.

2. Contact / contact address

This directive shall apply to deliveries made to the following locations:

Germany:

MD ELEKTRONIK GmbH
Neutraublinger Strasse 4
84478 Waldkraiburg
Germany

Czech Republic:

MD ELEKTRONIK spol. s r.o.
Logistikcenter Pilsen
Obchodni 1174/5
CZ - 301 00 Plzen- Skvrňany

China / Beijing:

MD (Beijing) ELECTRONICS Co., Ltd.
No. 6 Tian Wei 3 Street, Tian Zhu AIZ A
Shun Yi District, 101312 Beijing
China

Bulgaria:

MD Elektronik EOOD
Senchie, bul. "Europe" No 74
3000 Vratsa
Bulgaria

Mexico:

MD ELEKTRONIK de México S. de R.L. de C.V.
Virgen de San Juan 117
Parque Industrial Colinas de León
C.P. 37668
León, Guanajuato
Mexico

China / Changzhou:

MD (Changzhou) ELECTRONICS Co., Ltd.
No. 5, Yunhu Road, Jintan District, 213200,
Changzhou, PRC
China

2.1 Central point of contact for all matters:

MD ELEKTRONIK GmbH
Neutraublinger Strasse 4
84478 Waldkraiburg
Germany

Telephone: +49 8638 604 - 0
E-Mail: info@md-elektronik.de
Web: www.md-elektronik.de

3. Packaging

Suitable packaging protects employees from workplace accidents and the material from damage and incorrect handling along the entire Supply Chain. At the same time, the complete process chain is optimized - beginning with packaging at the supplier's premises, through shipping, transport, goods receipt and incoming-goods inspection, warehousing, and finally processing in manufacturing. The supplier is responsible for compliance with the general and specific packaging agreement.

3.1 General Packaging Directives

Packaging should always be planned and standardized with economic and ecological considerations in mind, ensuring a balance between cost efficiency and sustainability. This results in comprehensive quality assurance, efficient material handling, increased workplace safety, and an improved environmental footprint. The packaging directives are to be regarded as minimum requirements. **Any damage traceable to insufficient packaging during transport will be charged to the supplier.** If, based on the supplier's experience, additional protective measures or a different packaging design are required, these must be agreed upon in writing with MD.

3.2 Packaging Requirements

The packaging shall be structured so that the materials and the packaging itself can be transported, handled, and stored without damage. When selecting packaging, consider the climatic influences expected during transport. **Load carriers must arrive at MD free from damage.** For wooden packaging materials, observe the regulations of the recipient country in accordance with IPPC standard ISPM No. 15. Ensure adequate protection against soiling at every stage.

3.3 Packaging Information

Materials must never protrude beyond the load carrier. Observe the permitted weight limits of each load carrier (e.g., Euro pallet - max. 1,000 kg). **The maximum height of a complete load unit is 1,000 mm** unless otherwise specified or approved in the packaging agreement. Materials must not shift within the packaging or on the load carrier. Both the packaging and the individual items must be secured to the load carrier in all directions to prevent slippage. Unless otherwise specified or approved in the packaging agreement, the footprint of the load carrier must **not exceed standard Euro-pallet dimensions** (1,200 × 800 mm). Mark the load carrier's center of gravity where necessary to prevent tipping.

3.4 Load-Unit Robustness and Stack ability

All palletized load units must be engineered to withstand the static and dynamic loads encountered during transport and storage in a two-high stack. Pallets or containers shall retain their shape, remain level and free of protrusions, and prevent any deformation or damage to the packaged goods when stacked. Fastening elements (e.g., straps, stretch wrap) must keep the load stable in every direction, while the pallet's duckboards and runners must support, at minimum, the combined gross weight of the unit above. Any deviation from this robustness or stack ability requirements requires prior written approval from MD Logistics Planning.

3.5 Special Packaging Directives

Specific packaging must be agreed with MD by means of a packaging data sheet. The MD Purchasing division will request the data sheet from the supplier, the supplier can obtain the template from MD to ensure completeness. If required, a packaging test shall be carried out in coordination with the recipient plant. Any changes to - or deviations from - the agreed packaging must be approved in writing by MD in advance.

If special packaging is used, the following shall be observed:

A suitable packaging supplier must be selected, competitive quotations obtained, and prototypes submitted to MD for approval. Orders for special packaging are to be placed by the supplier with the packaging manufacturer.

3.6 Optimization of filling

The supplier shall always deliver load carriers at an optimal fill level. **If the fill level changes, MD must be notified immediately.** The supplier shall propose improvements to the container fill level and implement them in cooperation with MD Logistics Planning. Only in this way can we ensure that the packaging data are recorded correctly and that an updated packaging agreement can be issued.

3.7 Sustainability Requirements for Packaging

Suppliers shall design both inner and outer packaging to minimize environmental impact over the entire logistics chain. Packaging must reduce material volume and eliminate unnecessary components, favor reusable load carriers or returnable inserts wherever technically and economically feasible, employ easily recyclable materials - corrugated fiberboard or mono-plastic films with a minimum 80 % recycled content are strongly encouraged - and source any wood-based materials exclusively from FSC- or PEFC-certified suppliers.

3.8 Packaging Labeling

Each packaging unit must be clearly labeled. A VDA 4994 label shall be affixed to the load carrier in a clearly legible position and must not extend beyond the carrier's external dimensions, it may not be covered by opaque packaging material. All load carriers on Euro-dimension pallets shall be arranged so that **every label remains fully visible**. More information on the VDA4994 label in section [5.1 Goods Tag](#).

In addition to the VDA 4994 label, all packaging units must bear clear orientation and handling signs (e.g., "This side up", "Do not stack", "Fragile") according to the applicable standards such as ISO 780, DIN EN ISO 780, or DIN 55402. These signs must be applied in a durable and legible manner on at least one long and one short side of the packaging and must remain visible throughout transport and handling.

3.9 Packaging verticalization

The packaging must not have any supplier-specific printing on the packaging outer surface. However, environmental and sustainability-specific printing must be applied. It should also be possible to remove the labels without leaving any residue. The disposable packaging used should also be able to be used overseas and a fixed packaging quantity is desired.

Coil-specific requirements:

- Coil diameter: 590 mm
- Core boring diameter: at least 20 mm
- Outer carton with only one reel should be avoided
- No pallet overhang in the outer carton

4. Container / Empty Packaging Management

4.1 Empty Packaging Request

The supplier shall ensure that the transport containers required for its deliveries are available in a timely manner. If MD owns these transport containers, the supplier shall contact MD in good time to order the necessary quantity of reusable load carriers. This procedure applies only when MD owns the special packaging and makes it available to the supplier. Load carriers are to be used solely for the physical transport of goods from the supplier to MD and may not be used for any other purpose.

4.2 Empty Packaging Accounting

For all suppliers delivering to MD in returnable (multi-use) packaging - whether owned by MD or by the supplier - a separate returnable-packaging account shall be established and maintained for each type of load carrier. The supplier shall perform a monthly reconciliation of these accounts with MD. For returnable load carriers that are MD property, the supplier shall report its on-hand stock to the relevant MD plant, without prior request, within five working days after the end of each month.

5. Accompanying documents

The supplier is responsible for correctly preparing the delivery papers in accordance with the relevant standards. They must ensure that all data and information required for transport logistics are documented completely and without errors on the shipping documents. The carrier shall receive a haulage order, and where applicable the export documents; the delivery note shall be affixed to the container.

5.1 Goods Tag / VDA4994 Label

The goods tag enables clear identification of the goods and load carriers, both within the internal material flow and along the transport route between supplier, carrier, and recipient. Accordingly, the supplier shall ensure that every load carrier bears a current, properly completed, bar-coded goods tag in accordance with VDA 4994 Version 2 (or later versions).

This includes the correct use of **Single Labels**, **Master Labels**, and **Mixed Labels**:

- **Single Label**: for load carriers containing one single material.
- **Master Label**: for pallets consisting of several single-labelled packages of the same material.
- **Mixed Label**: for load carriers that contain different materials.

The information on the VDA Label must match the contents of the load carrier and the ASN. To ensure clear identification, the supplier shall remove any old goods tags and labels from the load carriers.

Design the goods tag so that it remains legible - both machine-readable and visually - at the delivery location, despite environmental influences and transport impacts. If goods tags are missing, illegible, or incomplete, MD reserves the right to charge the supplier for any additional costs incurred as a result. Detailed guidance on labeling requirements is provided in VDA 4994.

The VDA Label must barcode and display the following information:

- MD material number
- Supplier's material number
- Quantity
- Unit of measure
- Batch
- MD order number
- Delivery-note number
- Handling unit

A sample Label is shown in the [Appendix 11.1](#) of this Logistics Directive.

5.2 Delivery note

To accept materials at goods receipt, MD requires a delivery note that clearly describes the shipment. The delivery note shall always be prepared in accordance with DIN 4991. It must be securely attached to the pallet in a document pouch. A separate delivery note shall be issued for each order.

The delivery note shall contain the following information:

- Sender
- Delivery address
- MD order number (EAN 128 barcode)
- Delivery note number (EAN 128 barcode)
- MD material number
- Supplier material number
- Material designation
- Quantity per packaging unit
- Type, quantity, and description of the transport packaging
- Net and gross weight of each delivery item

5.3 Carrier Order

The Carrier Order (VDA 4922) serves as the consignment note and must accompany the goods from shipper to consignee. It shall be issued on the standard VDA 4922 form: prepared by the supplier/shipper, completed by the carrier, and handed to the consignee (MD) upon delivery as proof of receipt. All delivery notes relating to the shipment must be listed on this Carrier Order.

6. Transport & Delivery

The following regulations apply to the shipment of goods to MD and constitute supplementary contractual provisions to the purchasing agreements or other contracts with the supplier for parts deliveries. Any additional costs arising from non-compliance with these transport directives shall be borne by the supplier.

6.1 Sustainability in Transport

Sustainability must also be considered when planning and executing transport processes. Efficient utilization of transport capacities, for example through maximizing load factors, consolidating shipments, and avoiding empty runs, significantly reduces CO₂ emissions while lowering costs. Careful planning of packaging dimensions and unit loads further supports the efficient use of available space in trucks and containers. In addition, route optimization and the use of digital tracking systems help to minimize unnecessary mileage, reduce fuel consumption, and create transparency along the supply chain. These measures not only contribute to economic efficiency but also strengthen ecological responsibility and support the long-term sustainability goals of the company. If transport is organized by the supplier, we assume that it is carried out in an environmentally conscious manner and with the best possible care. If transport is organized by MD, it is essential that suitable space-saving packaging is available to avoid shipping unnecessary air.

6.2 Notification

Starting with each individual order or delivery schedule, the supplier shall ensure that the quantities ordered by MD are planned into production at the correct time and in the correct amounts. The supplier must also provide the required quantities on time and notify the transport service provider in due course, while adhering to the agreed delivery terms.

For deliveries under “EXW” or “FCA” terms, the carrier specified by MD must be engaged. If the supplier uses another carrier contrary to this agreement, any additional costs incurred by MD shall be borne by the supplier. The supplier must state both the gross weight and the weight of the load carrier accurately. Any additional costs arising from incorrect weight information shall be charged to the supplier.

6.3 Routing Order / Transport

Routing Orders are issued by MD and specify the designated carrier companies and their contacts. If the supplier engages a different carrier contrary to the Routing Order, any additional costs incurred by MD shall be borne by the supplier.

6.4 Express shipping / Special delivery

Short-term or extraordinary deliveries must be agreed with MD in advance. The cost of any express or special deliveries for which the supplier is responsible shall be borne by the supplier. Express or special deliveries not approved by MD will, in every case, be charged to the supplier.

6.5 Provision / Loading

Loading and clearance shall take place immediately upon provision of the vehicle.

If the supplier is responsible for undue delays in clearance, all resulting extra costs shall be charged to the supplier, with any third-party liability (e.g., customs authorities) expressly excluded. If the carrier cannot collect the goods as scheduled because of the supplier's fault - for example, the goods are not ready at the agreed time or the waiting period is excessive - the supplier must, at its own expense, promptly arrange delivery of the goods by alternative means.

6.6 Transport of hazardous goods

The supplier shall ensure that each shipment - including its packaging - complies with all hazardous-goods regulations. The supplier is liable for any damage resulting from non-compliance with these legal requirements. Safety data sheets must be made available to the responsible contact in MD Procurement before the first delivery. Hazardous substances shall be packed upright in approved containers. Temperature-sensitive hazardous substances must be protected from frost and heat by using suitable packaging. During transport, temperature-sensitive hazardous substances must be shielded from the weather. Any special transport requirements must be communicated to the carrier in advance. Labelling shall be carried out in accordance with hazardous-substance legislation and the Globally Harmonized System (GHS). In addition to the hazard symbols, all materials and packaging units must be marked with the material number and hazardous-substance number.

6.7 Return deliveries

Return deliveries for which the supplier is at fault shall be organized by the supplier. Any costs and effort incurred by MD may be charged to the supplier.

6.8 Customs processing

The supplier is responsible for properly preparing all customs documentation in accordance with current legislation and for accurate tariff classification when importing goods into the destination country. If MD incurs additional costs or disadvantages because the customs papers are incomplete or incorrect, MD reserves the right to charge these costs to the supplier.

6.9 Proof of origin

The supplier is obliged to provide MD, in good time, with all required declarations (supplier's declaration, certificate of origin) regarding the customs origin of the goods supplied. If requested, the supplier shall furnish proof of origin via an information sheet validated by a customs office. The supplier is liable for any disadvantages incurred by MD due to incorrect or delayed submission of this proof of origin.

6.10 Transport damage

The supplier shall ensure that the goods are handed over to the carrier in accordance with the agreed Incoterms and arrive at the delivery location in the same condition. All load-securing measures required by international regulations must also be observed. If the goods are damaged, MD may refuse acceptance and return them to the supplier at the supplier's expense.

6.11 Processing problems during transport

Problems arising in the prescribed procedure - Including strikes, force majeure, or changes caused by sub-suppliers - shall be reported immediately by the supplier to the haulage company and to MD Disposition, with a detailed description of the cause and nature of the issue. Such problems shall be resolved as quickly as possible.

7. Information obligation

Any change to the delivery location - e.g., relocation of production to another plant or the establishment of a new delivery warehouse - must be reported to MD Elektronik immediately.

8. Delivery Performance & Supplier Rating

The MD Group evaluates suppliers' capabilities. On-time, complete, and damage-free deliveries are decisive factors in our supplier rating process. Consistently high delivery performance earns a positive score, whereas recurring delays, shortages, or transport damage will lower your evaluation and may affect future allocations of business.

9. Advance Shipping Notice (ASN)

9.1 Introduction

To optimize goods flow and improve warehouse efficiency, all suppliers must submit an Advance Shipping Notice (ASN). The ASN is an electronic notification of an impending shipment that provides detailed information about the goods, enabling accurate planning and efficient processing at goods receipt.

9.2 Objectives

The implementation of the ASN has several objectives:

Increase Transparency:	Early transmission of shipping information allows us to better plan and coordinate incoming goods.
Reduce Wait Times:	The ASN enables our warehouse staff to prepare for the shipment's arrival, thereby reducing wait times at delivery.
Inventory Accuracy:	Detailed information in the ASN supports more accurate inventory management and reduces stock discrepancies.
Enhance Efficiency:	Automated capture and processing of shipping information accelerate logistics workflows and minimize manual interventions.

9.3 ASN Requirements

The exact requirements for the structure of the ASN can be found in the guideline "**Global DESADV MD ELEKTRONIK VDA 4987**", which is provided by MD.

9.4 Transmission of ASN

The ASN must be transmitted electronically via our preferred Electronic Data Interchange (EDI) system directly after the goods leave the supplier's dispatch location. The exact transmission method and relevant contact details will be agreed and documented with each supplier.

9.5 Verification and Approval Process

Upon receipt of the ASN, our system automatically checks it for completeness and accuracy. If any discrepancies are detected, the supplier will be contacted promptly to resolve them. The goods will be accepted into the warehouse only after the ASN has been successfully verified and approved.

9.6 Consequences of Non-Compliance

Failure to comply with ASN requirements may cause significant delays in goods receipt and subsequent processing. Repeated violations may result in contractual consequences. MD reserves the right to charge the supplier for additional effort and costs resulting from non-compliance, and such non-compliance will negatively impact the supplier rating. We therefore request that all suppliers strictly adhere to these guidelines.

10. Deviations from the Agreed Directives

In general, the agreements concluded with the supplier (e.g., purchasing terms) shall apply. Any additional oral agreements require written confirmation. Any non-conforming delivery must be submitted to MD in good time for approval. Unapproved deviations will be recorded as logistical defect claims, which will be considered in the supplier evaluation. For major deviations, MD may refuse acceptance of the goods (e.g., violations of safety regulations). The supplier shall bear the costs for any rework and returns. MD is authorized to impose fixed charges for deviations from the agreed logistics processes caused by the supplier (e.g., early delivery, over-delivery, or other deviations from the delivery and packaging regulations).

11. Appendices

11.1 VDA 4994 Label Example

VERSENDER MD ELEKTRONIK spol. s r.o. Dobřanská 629 Chotěšov		EMPFÄNGER KUNDE AG WERK INDUSTRIEPARK 10		MIX		
VERSENDER LIEFERANT AG WERK BERLIN BERLIN DE-10117 ID: 887766554		EMPFÄNGER MD ELEKTRONIK spol.s.r.o. LOGISTICS CENTRE; Obchodni 1174/5 CZ-301 00 PLZEN-SKVRNANY		S		
VERSENDER LIEFERANT AG WERK BERLIN BERLIN DE-10117 ID: 887766554		EMPFÄNGER MD ELEKTRONIK spol.s.r.o. LOGISTICS CENTRE, ID: 70745 OBCHODNI 1174/5 CZ 301 00 PLZEN-SKVRNANY WERK / ABLADESTELLE / LAGERORT		M		
URSPRUNGSLAND: DE		KUNDENSPEZIFISCHES ROUTING A1B2C3D4E5F6G7H8 LINE 15		ETA 2016-01-15/13:30 MENGE (ST) 1000 NETTO KG 1200,8 BRUTTO KG 1210		
LIEFERSCHEINNUMMER 12345678 LIEFERANTENNUMMER 987654321		SACHNUMMER Winkelkuppler m. Gehäuse GFS-123-554-747		PACKMITTEL-TYP 6280RL CHARGENNUMMER CH1234 ANZAHL INNERE PACKMITTEL 40		
PACKSTÜCK-ID (1,3) UN 987654321 000123456 		VERSANDDATUM S 2016-01-14 CHARGENNUMMER CH1234		ANZAHL INNERE PACKMITTEL 40		
LIEFERANTENSPEZIFISCHE DATEN 		SACHNUMMER LIEFERANT & BEZEICHNUNG		CUSTOMER DATA  <div> Order number incl. identifier %400 Material number incl. identifier %90 </div>		

CUSTOMER DATA



Order number incl. identifier %400

Material number incl. identifier %90

(Sample)



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