

DELIVERY INSTRUCTIONS for deliveries to locations of the WILO Group



Group Purchasing and Supply Chain Management / Group Logistics Excellence
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Aim and purpose

Fulfilling our customers' high expectations is the challenge we take up every day. For the WILO Group this means that every logistics activity is viewed from the perspective of customer satisfaction, both internally and externally. This requires the logistics processes to run smoothly throughout all the stages of the supply chain. Our suppliers play a key role in this chain, from the initial enquiry process through the confirmation and packing processes to the notification process as well as the transportation and delivery processes which extend right into our production processes. WILO's logistics and production processes are therefore also strongly influenced by the SUPPLIER in terms of the stability of the processes, occupational safety, quality and costs, based on the quality of the associated flows of information and materials.

We therefore expect our SUPPLIERS to fulfil the requirements described in this document in order to guarantee the 7 R's of logistics - the right materials, ... at the right time, ... in the right quantity, ... of the right (agreed) quality and in the right form (preservation, packaging), ... with the right information ... at the right (agreed) price ... at the right place

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1. Validity, document structure, definition of terms

1.1. Validity

The requirements in these requirements specifications apply to all supplies and flows of information between SUPPLIERS and WILO Group locations and its subsidiaries, hereinafter referred to as the CUSTOMER. They apply to all the different purchasing processes (ordering, delivery scheduling, Kanban, SMI etc.) and locations (production, logistics or sales locations). **Additional individual agreements can be defined for different locations. These only apply to the named location [7].**

1.2. Special processes, deviating regulations, exceptions or transition periods

Framework purchasing agreements, logistics agreements, supplementary agreements, plant-specific or country-specific delivery guidelines, packaging or labelling regulations may determine special processes, deviating regulations, exceptions or transition periods relating to a defined supplier, specific material type or individual material numbers in regard to the entire document, individual chapters or special processes. Those take precedence over this document.

These must be agreed between Purchasing and the logistics department at the receiving location of the CUSTOMER. **Deviating agreements and regulations as well as transition periods for exceptions must be approved by the respective site logistics department and recorded in writing either as an appendix to the logistics agreement or in a special agreement and filed in the SLC portal [7].** While doing so, the legal regulations may not be overridden or diminished. In addition, the responsibility of the loading party and distributor of the goods may not be transferred to the recipient.

The author of this document is neither responsible for reaching agreements regarding deviations or exceptions, nor authorised to do so.

Furthermore, all the provisions described in this document must be viewed as being supplementary to the CUSTOMER's purchase contracts and the respective agreed Incoterms.

1.2.1. Wilo transport management process via the Wilo Logistics Portal [7]

The Wilo transport management process is compulsory for all suppliers with Incoterms that assign responsibility to the CUSTOMER for a predominant (main transport, main leg) or comprehensive assumption of transport costs and risks (e.g., EXW / FCA / FOB). For details, see chapter 7 "Release/Notification of the transport" Page 21.

1.3. List of abbreviations, definitions and definitions of terms

1.3.1. List of abbreviations

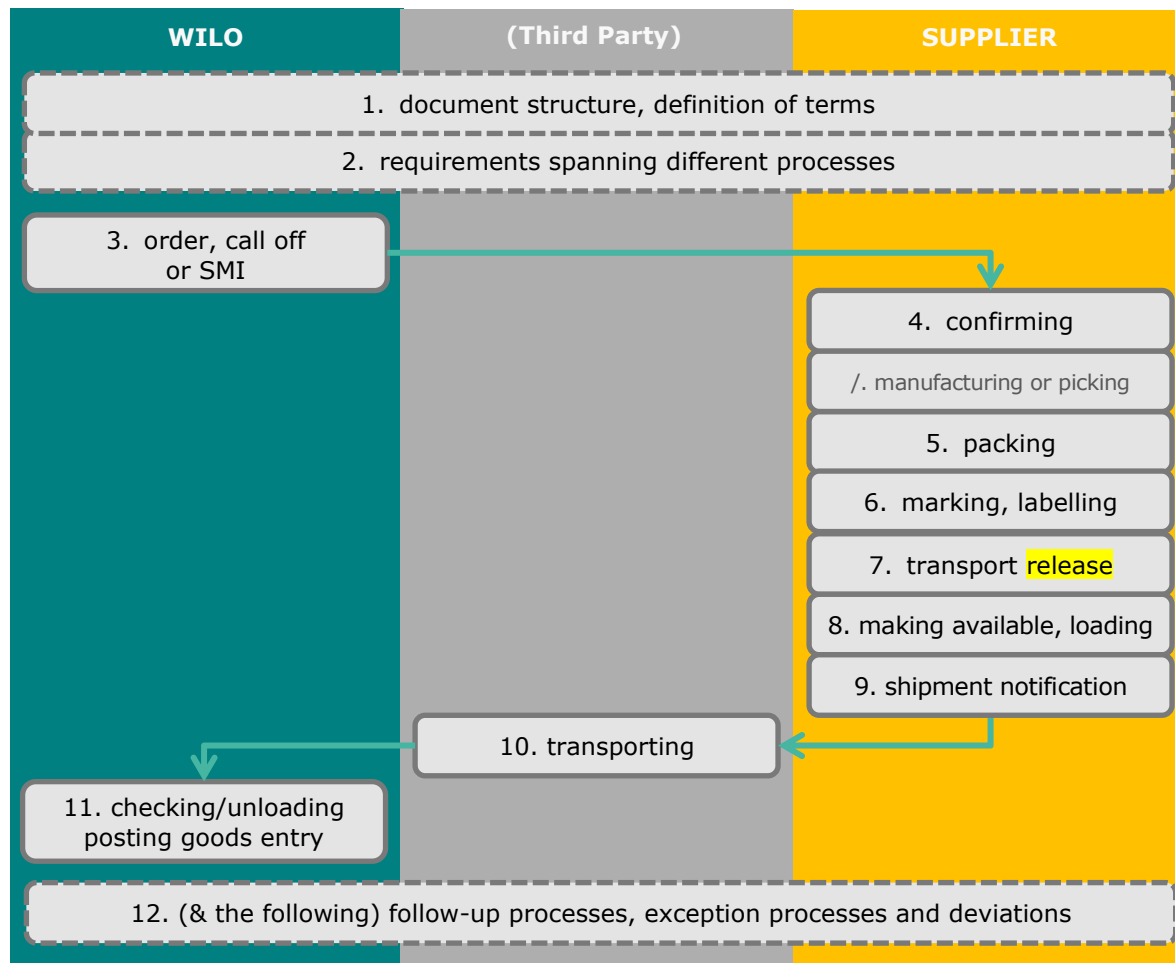
- GLT Large load carrier / container (Abbreviation for German "Großladungsträger").
KLT Small load carrier / container (Abbreviation for German "Kleinladungsträger").
SMI Supplier Managed Inventory, the supplier assumes full responsibility for the supply of a specified range of articles from a plant and must maintain stock levels between defined minimum and maximum limits. To do this, it is given an insight into the CUSTOMER's supply planning situation. SMI may be agreed in connection with consignment stock processing.
VMI Vendor Managed Inventory is the same process as SMI, but from the point of view of the SUPPLIER.

1.3.2. Definition of terms

Shipment A shipment is the total of all the packages from one sender on one loading day for one receiving location which are to be loaded on one collecting vehicle, provided if it meets the weight-specific or volume-specific requirements. In other words, if the total of all the articles which are to be loaded on one dispatch date for delivery to one delivery location is so large that it does not fit into a single collecting vehicle, it forms two shipments.

1.4. Document structure

This document and the sections in it are structured in line with the following process chain:



2. Requirements spanning different processes

2.1. Duty to provide information

The SUPPLIER is subject to the duty to provide information. A written declaration of consent must be obtained from **the CUSTOMER's regular contact person** for all changes that may affect the logistics processes, quality or costs of the respective receiving plant [7].

Furthermore, the SUPPLIER is responsible for informing the CUSTOMER of any incorrect or implausible ordering information sent by the latter.

The basis of successful cooperation between the SUPPLIER and the CUSTOMER is properly functioning communication. Therefore, the SUPPLIER must provide the CUSTOMER with the names of responsible contact persons. The SUPPLIER must notify the CUSTOMER of any change of the contact persons without delay.

In emergency situations, in particular if timely or proper delivery to the CUSTOMER by the SUPPLIER is jeopardised, the SUPPLIER must also ensure that a contact person designated by the SUPPLIER **is available during their normal business hours** [7].

When shipping dangerous goods, the SUPPLIER must nominate a dangerous goods safety adviser as a point of contact for the CUSTOMER prior to making delivery of the first order.

2.2. Contingency plan

The SUPPLIER's management is obliged to draw up contingency plans in the event of any disruption of operations, e.g., in the case of technical defects, capacity bottlenecks or quality problems, and to initiate and agree with the CUSTOMER corrective and preventive measures which ensure that the problems cannot have any long-lasting effect on the CUSTOMER's operations. The disruption must previously have been reported without delay to the corresponding CUSTOMER plant by the party which has caused it.

The contingency plan must always contain measures and deadlines for rectifying the problem. The contingency plans that have been developed by the SUPPLIER must be agreed with the CUSTOMER before the first delivery takes place.

Furthermore, the CUSTOMER expects its SUPPLIERS to have measures in place which guarantee supply in the event of the exceptional circumstances referred to above. The SUPPLIER may have to maintain safety stocks for this purpose or demonstrate that it has a flexible production model.

The chosen alternative must be shown to be credible during the quality audit, and it must be disclosed at any time if the CUSTOMER requests this.

If it becomes apparent that the agreed measures are not adequate, the CUSTOMER reserves the right to demand that safety stocks be set up.

The SUPPLIER is obliged to notify the CUSTOMER's responsible supply scheduler of any supply bottlenecks without delay, as well as any unforeseen events during transportation, and to propose a practicable solution to the supply problem.

If delivery to the CUSTOMER is jeopardised as a result of an incident (e.g., lorry accident, halted production, accident, etc.), the SUPPLIER must immediately initiate delivery from a safety stock held by them, **provided that safety stocks have been agreed in the framework or logistics agreement [7]**. Following consultation with the CUSTOMER's responsible supply planner, subsequent delivery in smaller transport units may then have to be carried out at the SUPPLIER's expense if this is the only way to prevent the CUSTOMER's production operations being interrupted.

If damage to the parts is only detected once they have reached the CUSTOMER, the SUPPLIER must likewise be able to resupply without delay from its safety stocks if the maintaining of the CUSTOMER's production operations cannot otherwise be guaranteed.

If a SUPPLIER participates in Wilo container management, they are obliged to communicate packaging bottlenecks to the respective CUSTOMER contact person at an early stage. Furthermore, when using reusable packaging, the SUPPLIER is obliged to agree on suitable alternative packaging and to utilise it in the event of overuse of the reusable container cycle. If additional costs are incurred due to the unnecessary use of alternative packaging or packaging that has not been agreed on (e.g. due to repackaging), these shall be borne by the SUPPLIER.

Any costs incurred for delivery by courier to speed up the delivery time shall be borne by the SUPPLIER if the SUPPLIER is responsible for the delay. If WILO accepts the delivery by courier, the costs shall be invoiced to the SUPPLIER. Invoicing in accordance with the agreed Incoterms may become invalid as a result [7].

2.3. Dangerous goods

The regulations pertaining to the transport of dangerous goods must be observed. The SUPPLIER, in its capacity as the distributor of dangerous goods, is responsible for the classification, permitted means of transport and transportation permit and must, in its capacity as the consignor and/or shipper, also observe all applicable regulations pertaining to the transport of dangerous goods. If the SUPPLIER assigns loading to a third party, the supplier remains responsible for the loading party's compliance with all relevant regulations.

Any applicable national regulations of transit countries must be observed. Shipment must be made in packaging approved for dangerous goods, UN-certified and approved by the logistics department of the receiving factory. Following receipt of the order, any necessary data sheets, approval notices, etc. must promptly be made available to the CUSTOMER, as well as to the dangerous goods safety adviser of the local logistics unit and the shipper, in due time prior to dispatch. The SUPPLIER is liable for all damages and costs incurred due to a failure to observe the statutory regulations.

Material that is subject to hazardous goods regulations must be packaged and labelled in accordance with the relevant regulations. Corrugated cardboard/boxes used for packaging must be made from waterproof coated materials. Documents relevant to dangerous goods must be enclosed along with the shipment as described in chapter 8.1. Documents – and a copy must also be handed over to the driver [7].

2.3.1. In particular, we refer to compliance with provisions such as

- **ADR** (*Accord européen relatif au transport international des marchandises Dangereuses par Route*). English: the European Agreement concerning the International Carriage of Dangerous Goods by Road,
- **RIF / RID** (*Règlement concernant le transport international ferroviaire de marchandises Dangereuses (RID, Appendix C)*). English: The Regulation concerning the International Carriage of Dangerous Goods by Rail,
- **IMDG-Code** (*International Maritime Dangerous Goods Code*),
- **IATA DGR** (*International Air Transport Association - Dangerous Goods Regulations*).

2.3.2. The following information serves only as an example and should not be considered exhaustive

When shipping lithium-ion batteries (UN 3480), regulations such as packing quantity limits, weight limits, packaging and labelling regulations, and documentation requirements for transport papers apply, depending on the mode of transport, battery power and quantity. Various regulations or even transport bans may apply, depending on the battery power and quantity. Additional regulations may apply to lithium-ion batteries contained in equipment or packed with equipment (UN 3481). Likewise, regulations apply to lithium metal batteries (UN 3090) and lithium metal batteries contained in equipment or packed with equipment (UN 3091).

2.4. Paperless communication

2.4.1. Communication channels: EDI, WEB EDI, SLC, Wilo Logistics Portal [7]

The CUSTOMER will provide the SUPPLIER with a communication tool. The aim of this is to minimise communication workload, in particular in relation to processes that are running normally, and consequently to enable more concentrated attention to be paid to exceptions in order to proactively avert their negative consequences for the logistics and production processes.

The selection of the appropriate tool is dependent on the SUPPLIER's capabilities in relation to special processes.

Tool	Meaning	Processes
WPC (SLC)	Wilo Purchasing Collaboration portal	Tenders, tender processing, exchange of contract and QA documents, as well as requests for approval [7].
WEB EDI	WEB EDI portal or LSP portal made by Seeburger.	Orders and order changes and confirmations as well as delivery schedule processes. For all these: delivery notification
Wilo Logistics Portal	This is a user interface to Wilo's SAP TM Transportation Management	Release of shipments for collection (with FCA) or handover (with FOB), delivery notification and uploading documents for delivery. [7]
EDI	Electronic Data Interchange	Orders and order changes and confirmations as well as delivery schedule processes. For all these: delivery notification

SUPPLIERS with their own access to the WPC portal must answer enquiries created via WPC within it [7].

EDI processing should be used in preference to the WEB EDI solution by SUPPLIERS that only handle standard processes (orders, order confirmations, delivery schedules and delivery notifications).

SUPPLIERS that can only handle some of these standard processes via EDI, or only in one direction, must accept and use the Seeburger WEB EDI solution.

For all standard ordering processes (ordering process and delivery schedule process, changes, confirmations and accompanying delivery notifications), the CUSTOMER provides the SUPPLIER with the Seeburger SSP Portal.

If, in addition to the above-mentioned standard processes, the SUPPLIER also carries out SMI processes with the CUSTOMER, the LSP system of Seeburger is used as a WEB EDI platform only for the SMI articles in question and the accompanying delivery notifications (LSP = Logistics Service Professional).

The CUSTOMER is continually developing the WPC and the Wilo Logistics Portal. The CUSTOMER and Seeburger evolve the portal for special processes as required. The SUPPLIER shall be notified of any available improvements and must immediately implement them. If additional processes are introduced, they must be implemented as quickly as possible, taking transition periods into account, after having correspondingly changed the logistics agreement or following conclusion of a supplement to the agreement. Migrating processes that already exist in other portals to the Wilo Logistics Portal (e.g. delivery notification) does not represent an additional process and must be implemented immediately for the next due date after notification and provision of current instructions to the SUPPLIER [7].

2.4.2. Information channels via post, fax or e-mail with PDF attachment

These information channels result in a significantly increased workload and are no longer accepted by the CUSTOMER. The rules described in the respective chapters apply to exceptional cases (i.e. delivery delay and breakdowns).

2.4.3. Obligations associated with paperless communication

The SUPPLIER is responsible for the independent and timely processing of the documents sent to it by the CUSTOMER.

In order to guarantee this, the SUPPLIER must ensure that

- the CUSTOMER's target system can be accessed by its employees,
- the data received is processed further and is not left unused at any of the interfaces,
- appropriately trained replacement staff are available to cover for illness or holidays,
- documents received are processed only once in order to avoid, for instance, an amendment to an order being processed as a new order.

2.4.4. Correctness and completeness of data

In order to guarantee an economical, trouble-free and smoothly running incoming goods process for the CUSTOMER, the SUPPLIER is responsible for reliably ensuring the correctness and completeness of its data at all times. This applies to all data, regardless of whether it is printed on paper or is transmitted as electronic processing data.

The CUSTOMER is responsible for the accuracy of the data in the order documents and in the CUSTOMER's master data.

3. Order process, delivery schedule process and special processes

3.1. Overview of the order processes

Conventional processes	Special processes
Standard ordering	Kanban
Version: subcontracting	SMI (usually with consignment stockholding)
Version: cost centre ordering	Consignment stockholding
Delivery schedule	

3.2. Delivery dates are arrival deadlines

The delivery dates specified in orders or delivery schedule call-offs are always the date of arrival at the consignee. This applies irrespective of the Incoterm, and consequently irrespective of whether the SUPPLIER or the CUSTOMER is responsible for transportation.

3.3. Duty to provide information if quantities or deadlines cannot be provided/met

The plausibility of orders or call-offs that are received must be checked, in particular with regard to quantities, deadlines and master data (unloading location, load containers etc.).

Furthermore, it is a fundamental requirement that the SUPPLIER checks without delay that the demands received can be met in terms of quantities and deadlines. If any aspects are implausible or if there are requirements bottlenecks, the CUSTOMER's supply planner must be informed without delay.

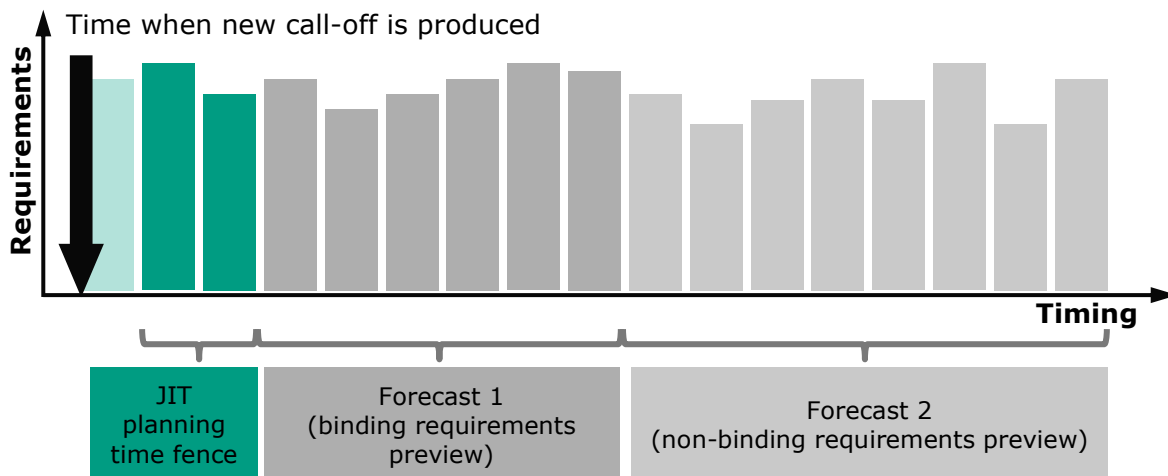
3.4. Ordering, normal ordering, delivery schedules within purchase orders

An order may relate to a framework agreement in the form of an "order call-off", or it may be a "one-off order" without an associated overarching framework agreement. The requested delivery date for an order call-off generally depends on the delivery periods that are promised in the framework agreement.

3.5. Delivery schedule

A delivery schedule process differs from the normal ordering process because the CUSTOMER sends the SUPPLIER up-to-date rolling call-offs at the agreed intervals (generally weekly) for what is regarded as the "frozen time zone" following the date on which they are produced, as well as a preview or forecast for the subsequent weeks and months. The preview allows the SUPPLIER to plan its procurement of raw materials and its manufacturing operations so that it significantly reduces its delivery period in comparison to the normal ordering process.

This process means that the SUPPLIER is only allowed to supply the so-called JIT call-offs.



3.5.1. JIT planning time fence:

Within the JIT planning time frame, any changes to the JIT allocations in relation to timing or quantity are subject to the SUPPLIER's agreement.

The SUPPLIER must supply the quantities that have been called off at the specified times. These call-offs are clearly identified within the delivery schedules because they are contained within the planning time fence and are marked with a "D" (for "daily"). If a specific weekday is agreed as the delivery date between the SUPPLIER and CUSTOMER, this is automatically considered in the CUSTOMER's required deadlines. If the CUSTOMER is closed on working days (e.g. public holidays, stocktaking, etc.), the agreed delivery day shall be brought forward to the previous working day [7].

The call-offs and forecasts / previews remain valid until they have been replaced by the following respective call-off.

Call-offs are deemed to be automatically confirmed if they are not cancelled at the latest on the day after they were sent.

The SUPPLIER guarantees the supplying of all the parts according to the delivery schedule at no extra charge during the planned shutdowns of its business or any other events/disruptions which occur within its business. Pre-production by the SUPPLIER due to plant closures and the associated possible additional demand for reusable packaging that cannot be covered by the pool quantity is not a reason for delivery in alternative packaging [7].

3.5.2. Binding requirements preview (forecast 1):

Supplies must not be delivered based on forecasts. They can be identified because within the forecast they are marked with a "W" for week or "M" for month.

Within the binding requirements preview the CUSTOMER is entitled to alter the deadlines and/or quantity. The SUPPLIER is obliged to maintain supply readiness at all times. The CUSTOMER is obliged to take full delivery of the originally forecast requirements for this time window, and the deadline for doing so is specified in the individual contract. The SUPPLIER is responsible for any quantities of products or raw materials that it keeps available in excess of this. If no binding period is agreed (e.g. for standard products), the purchase obligation ceases.

3.5.3. Non-binding requirements preview:

The non-binding requirements preview (forecast 2) is only used for information purposes and is not in any way binding. The non-binding requirements preview means all the CUSTOMER's forecast requirements after the end of period of the binding requirements preview (forecast 1).

3.6. Kanban supply process

The basis of the Kanban supply process is a Kanban empty notification in the CUSTOMER's system. This triggers an automatically generated normal order which the SUPPLIER receives as EDI message. As a rule, Kanban orders do not need to be confirmed, as the delivery time is agreed contractually.

3.6.1. No automatic preview (forecast) with Kanban or normal orders

An automatic preview of future or planned requirements, such as is provided with the delivery schedule or SMI process, is not currently available within the Kanban supply process. If this is absolutely necessary for ensuring replenishment from the SUPPLIER, the CUSTOMER's scheduler and procurement operative are responsible for sending manual forward plans. At present, this can only be done in an EXCEL spreadsheet which is sent by e-mail.

3.6.2. Review and agreement

Certain articles may be subject to seasonal fluctuations, so if necessary, the CUSTOMER and the SUPPLIER will confer with each other again regarding adjustments to the number of Kanban containers and/or their fill quantities.

If the agreed number of containers, the quantities in the containers, or the maximum supply frequency do not seem plausible to the SUPPLIER, it must send appropriate proposals for adjustments to the CUSTOMER. Under no circumstances may the SUPPLIER make such adjustments unless the CUSTOMER has first given its approval and made the corresponding change in its IT programs.

The SUPPLIER is responsible for independently monitoring the re-order and safety stock levels and the replenishment situation in its warehouses and IT systems so that it can make deliveries on time in accordance with the promised response times and delivery periods.

The SUPPLIER shall be obliged to regularly check his confirmed reaction and delivery times and verify these to the CUSTOMER.

3.7. SMI supply process

SMI stands for "Supplier Managed Inventory". In this process, the SUPPLIER independently manages the needs-based supplying of defined articles on the basis of transparent information about the CUSTOMER's inventory and requirements and in line with agreed minimum and maximum stock levels. This process is also widely known as "VMI" – Vendor Managed Inventory.

SMI delivery processes shall be agreed upon in individual contracts. If any application of consignments has been agreed, ownership shall not be transferred to the CUSTOMER upon arrival of the supply delivery but only upon access to the agreed minimum partial quantities from the corresponding consignment stocks to production stocks.

The basis for the obligatory production of SUPPLIER delivery notifications regarding SMI deliveries to the CUSTOMER is a delivery schedule. Unlike in the standard delivery schedule process, no individual call-offs (so-called releases) are generated by the CUSTOMER. The delivery schedule is required in order to link the delivery notification with a corresponding purchasing document and the subsequent invoice.

3.8. Consignment stock processing

Consignment stock processing does not necessarily have to be carried out as an SMI process. Instead, consignment stock processing may be agreed in the form of a CMI (Customer Managed Inventory) process, regardless of how the purchasing document is produced. In this case, the CUSTOMER retains the authority to plan the quantities that are to be delivered and the timing of the deliveries. However, the supplier delivers the weekly, fortnightly or monthly order quantities or delivery schedule updates into the consignment stock. This means that the SUPPLIER initially retains ownership. The individual daily call-offs, and consequently the take-off of stock from the consignment warehouse, occur on a "just in time" basis in the form of daily requirements.

4. Order confirmation

The SUPPLIER must confirm CUSTOMER orders punctually. This applies, in particular, to standard orders, but not to delivery schedule call-offs, Kanban order updates, or consignment stock deliveries.

4.1. Which orders have to be confirmed?

Conventional processes	Confirmation
Standard ordering	Obligatory
Kanban (basis is standard order)	NO
Version: subcontracting	Obligatory
Version: cost centre ordering	Obligatory* [7]
Delivery schedule	NO
SMI delivery (basis is delivery schedule)	NO

* Orders for services do not require an order confirmation or notification of delivery.

Orders on the Seeburger SSP Portal for transported goods must always be confirmed.

If physical transportation takes place, a delivery notification must be sent.

4.2. Timely confirmation of the order

An order confirmation is deemed to be provided on time if is sent off no later than on the second working day after the order item is received by the SUPPLIER. Earlier confirmation is possible, and explicitly desired. Shorter or longer confirmation deadlines can be agreed in the individual contract. The relevant step in this regard is not its production, but the sending of it (so-called release). If this step is forgotten, the delivery date set by the CUSTOMER is deemed to be confirmed. Point 3.3. Duty to provide information if quantities or deadlines cannot be provided/met is not affected by this.

4.3. Form of order confirmation

Order confirmations are only accepted if they are transmitted via the CUSTOMER's WEB EDI system or via EDI to the IP address specified by the CUSTOMER.

Order confirmations via post, fax or e-mail result in a significantly increased workload and are no longer accepted by the CUSTOMER. In individual cases, it is only possible to send order confirmation by e-mail for a limited period after written agreement with Purchasing. The time limit ends when the SUPPLIER has enabled its EDI in accordance with the agreement or has been connected to the Web-EDI system [7].

4.4. Confirmation of differing delivery quantities and dates

4.4.1. Differing quantities

Order confirmations may only be confirmed for differing quantities subject to under- and over-supply limits which are agreed in a framework agreement. The respective operational purchaser at the CUSTOMER must promptly be notified in the event of a partial or full-scope supply bottleneck and independently from the EDI / WEB-EDI confirmation. He is the only person who is able – with the aid of his scheduled production deadlines – to decide on appropriate measures for supplying the requirements of his manufacturing orders from other sources.

If a SUPPLIER's packaging unit changes, this must be communicated, agreed and approved by the CUSTOMER [7].

4.4.2. Differing delivery dates

If, in individual cases, confirmation cannot be issued on time as requested, the SUPPLIER's planner must take this into account in the order confirmation. If this results in a delay, the CUSTOMER's operational purchaser must be informed immediately, irrespective of the EDI / WEB-EDI confirmation, as this may have a disruptive impact on the CUSTOMER's production schedule. Previous order confirmations must also be updated in the event of subsequent changes to the delivery date (by "Order Response Update" via EDI or Web-EDI). This also applies in the case of multiple changes to the same order [7].

4.4.3. Significance of differing order confirmations for the evaluation of suppliers

The suggested delivery date is derived from the CUSTOMER's IT system, as a rule based on the SUPPLIER's delivery undertakings in the framework agreement. In this case, the desired delivery dates already take account of the agreed delivery period. The CUSTOMER will therefore also evaluate the SUPPLIER's reliability in relation to order confirmations on the basis of the contractually agreed delivery periods. This means that a delivery based on an order confirmation for a later delivery date is not classed as being on time if the previously requested delivery date is based on a promised delivery period.

4.4.4. Confirmation of differing prices

If orders contain incorrect prices, these errors must be notified together with the name of the CUSTOMER's respective supply planner prior to confirmation. The CUSTOMER's supply planner must then make any necessary corrections to the order, so that the SUPPLIER only processes order confirmations which are valid in pricing terms. If the SUPPLIER fails to provide clarification before confirming, this can also be done afterwards. However, any price change in the order requires a new confirmation. This avoids additional work for both the SUPPLIER and CUSTOMER when verifying subsequent invoices [7].

4.5. Deviations within delivery schedule

The delivery time has a greater contractual significance and binding character for the delivery schedule process, similar to a call-off for blanket orders. For this reason, the SUPPLIER must always, within contractual limits, be ready to deliver, meaning the confirmation requirement does not apply. If, in

exceptional cases, the SUPPLIER is not ready to make delivery, it must inform the operational purchaser at the CUSTOMER by email and telephone without undue delay.

This also applies for Kanban orders and SMI deliveries.

5. Packaging

If the agreed quantities permit, shipment packaging and load containers should make efficient use of transport capacity. They should be cost-effective and environmentally friendly, but still guarantee appropriate transportation of the goods which safeguards their quality.

5.1. Structural Components Specification and resulting packaging regulations

For overall optimisation, the CUSTOMER's objective is to synchronise the internal logistical data, such as the container type and fill quantity along the entire supply chain. The container type to be used and the associated container fill quantity is geared to optimal production supply according to the LINE-BACK principle, and it is then synchronised as well as it can be with the procurement lot size (= fill quantity of one or more containers / bins).

The results flow into packaging instructions that are mutually agreed upon by the CUSTOMER and the SUPPLIER on a binding basis. As a rule, these relate to a single article in each case. If a SUPPLIER supplies several plants, various packaging instructions may apply.

The goods to be delivered to the CUSTOMER must always be packaged in the reusable or single-use containers agreed with the CUSTOMER, using corresponding inserts where applicable. The prescribed/agreed fill quantity that is specified per material number must be adhered to.

5.1.1. Requirements of the Packaging Act [7]

The SUPPLIER is obligated to retain all data relating to the packaging used for deliveries to the CUSTOMER (quantity per KLT/container, quantity per tray/inlay/blister, pallet quantity, photos of packing order, other packaging materials used, delivery on clean pallet or mixed pallet, dimensions and weights of container/pallet/load carrier, basic materials used for container/pallet/load carrier, stackability, maximum stacking load of large containers, costs for all packaging components, etc.) and to provide this data on request, but at least once a year without being asked.

In this regard, the SUPPLIER is obligated to transmit the correct packing data with each notification.

If the CUSTOMER and SUPPLIER have already agreed on packaging, this must be used. The customised packaging ensures optimum production supply and material protection. If the goods are delivered in different packaging without the CUSTOMER's approval, the shipment is considered defective and the CUSTOMER may file a complaint. If the CUSTOMER incurs repackaging costs, the SUPPLIER shall pay compensation for damages. This also applies if, during planning, the SUPPLIER fails to bring forward production at short notice, e.g. before factory holidays, etc.

A catalogue of the respective CUSTOMER's standard containers is available and can be provided on request.

Amendments to the Packaging Act due to the new EU Packaging Regulation must be implemented on time.

5.2. Packaging requirements if there are no packaging instructions

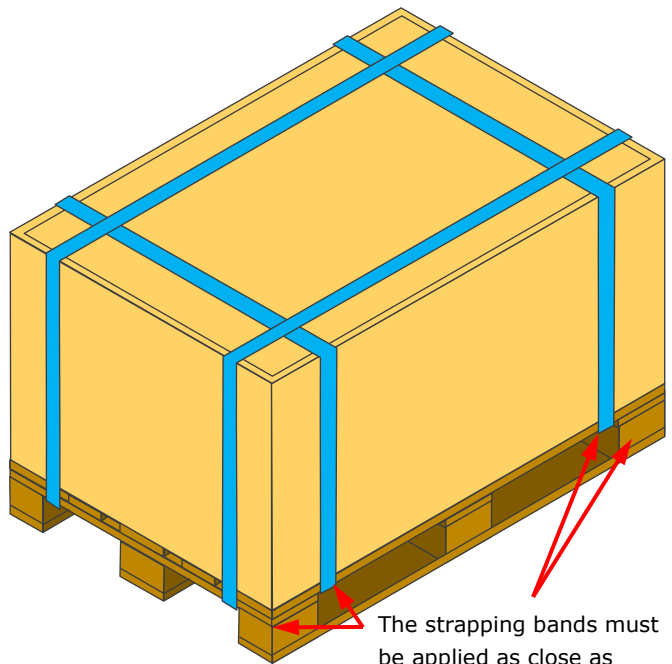
As long as no packaging instructions or packaging specifications [7] have been agreed between the SUPPLIER and the CUSTOMER, the responsibility for packaging, preservation, strapping and other internal load securing suitable for transport and handling, which ensures damage-free delivery to the place of use, as well as the responsibility for ensuring that all logistical issues in the production process and in series production are secured, lies solely with the SUPPLIER in accordance with the guidelines described below. Even if a packaging specification is followed, the SUPPLIER is jointly responsible for ensuring safe transport and handling packaging [7].

Irrespective of the choice of packaging, it must be ensured that the delivery meets the following requirements:

- The load container and transport packaging should guarantee safe and resource-efficient handling during loading, shipment of the goods and unloading, and during transportation and extraction of sub-quantities at the CUSTOMER's premises.
- Reusable containers should be preferred in view of the economic efficiency of transportation and the exchange process compared with single-use containers. Reusable containers must be selected from the pool of standard containers used at WILO or approved by Wilo container management.
- **If the use of reusable packaging is uneconomical, the SUPPLIER shall propose suitable disposable packaging. This must be approved by the CUSTOMER.**
- **Delivery on one-way pallets is not permitted at the Dortmund plant and with its external warehouse service providers; these may only be used after approval by the CUSTOMER as a special agreement.**
- **Sealing containers with screws and nails that are exposed after opening the packaging is not permitted for reasons of occupational health and safety [7].**
- Reusable containers must be clean, safe and exchangeable based on current standards. In the case of pool/DB mesh box pallets as per DIN 15155, the CUSTOMER is obliged to return exchangeable crates to its legitimate suppliers. The exchanging of mesh box pallets which cannot be exchanged according to the same standards leads to significant losses and an unacceptable disadvantaging of the CUSTOMER, and it will therefore be refused. The collection and return of non-exchangeable mesh box pallets is not possible.
- **ESD packaging must be used for electronic components if protection against discharges of static electricity is required by drawings, orders or packaging instructions. The maximum permissible surface resistance of ESD-compatible packaging is 1×10^9 Ohm [7].**
- Old labels/markings must be removed before the container is used. The SUPPLIER must ensure that appropriate new markings are applied.
- Double stacking must be possible as a minimum, and adequate securing mechanisms must be able to be used. This also applies to single-use containers. If the following average pallet weight for a supplier is exceeded, the stackability requirement can be waived:
 - Road/rail freight: > 750 kg
 - International container freight, general cargo (small consignments of up to 5 pallets): 1,000 kg
- If necessary, an empty KLT or empty box can be used to provide stackability.
- If, in exceptional cases, a non-stackable packaging has been agreed, a suitable stacking prevention (top-loading protection) must be fitted (see example in illustration on the right). A simple notice is not sufficient.
- Recyclable materials should be used where possible. Use of environmentally friendly packaging materials is intended to support avoidance of packaging waste, reusability of packaging, simple recycling, and minimised use of packaging materials. Where possible, the use of composite materials and loose filling material, such as packing chips, is to be avoided.
- Strapping: Even light transport units must be strapped. Cling wrap or shrink wrap films are not adequate, even if the film is used to fix the pallet in place.
- Furthermore, PET plastic straps must always be used. Use of steel straps is not generally permitted for occupational safety reasons. Exceptions are explicitly specified in packaging instructions issued by the receiving plant's logistics department.
- Edge reinforcements must be used to prevent strapping bands cutting into cardboard packaging and containers. Excessively tightened straps that deform the outer packaging are prohibited **and the SUPPLIER has the right to file a complaint about this [7].**
- For lighter transport units up to a total weight of 300 kg, 2 bandings, either lengthwise or across, positioned as close as possible to the pallet blocks, may be used.
- Bands must be vertical. Non-vertical bands are not permitted.

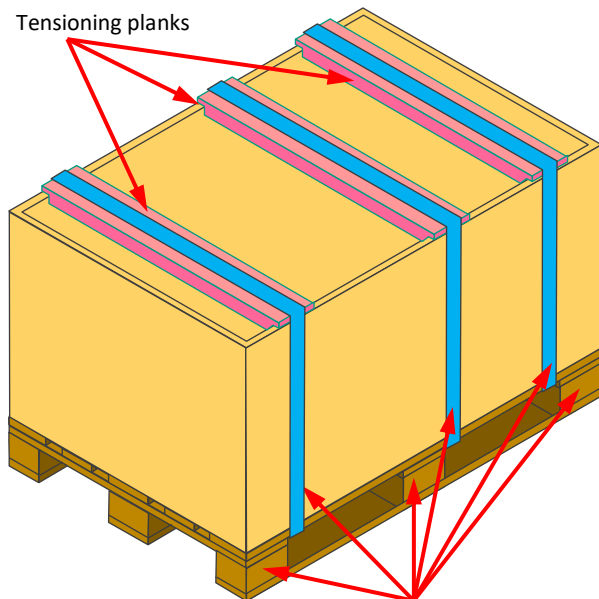


- Heavy transport units of 300 kg and more must be secured using 4 bandings, 2 lengthwise and 2 crosswise, positioned as close as possible to the pallet blocks (see image on the right). If necessary, to ensure they are stackable, these transport units must be further stabilised by vertical reinforcers made from wood or compressed cardboard.
- Such transport units must be stabilised by tensioning planks or framed covers if their structure includes folding stacking frames. These reduce lateral forces which deform the packaging, and they concentrate the clamping forces along the vertical axis of the pallet (see the following illustration).

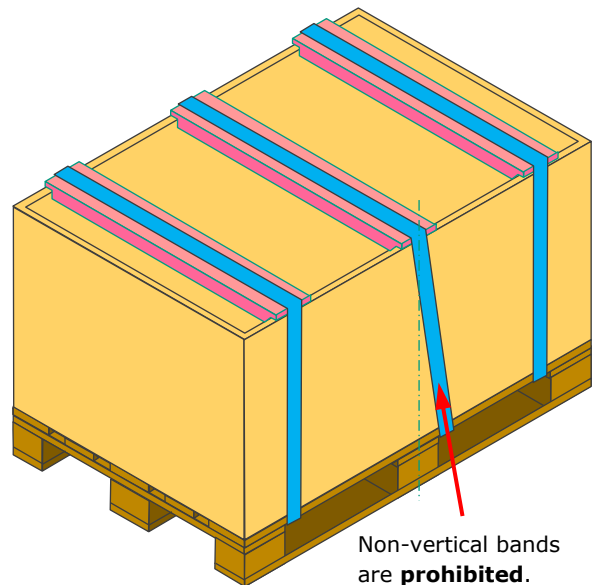


The strapping bands must be applied as close as possible to the stringers.

Tensioning planks

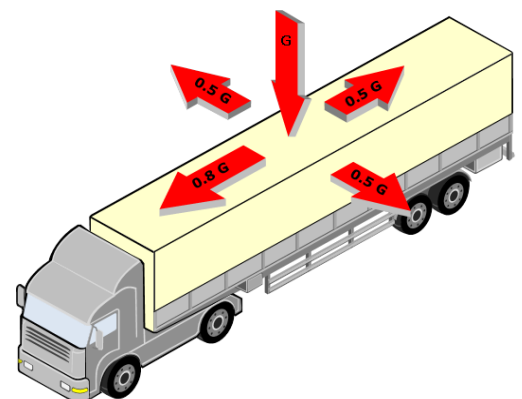


Bands must be applied as close as possible to the stringers.

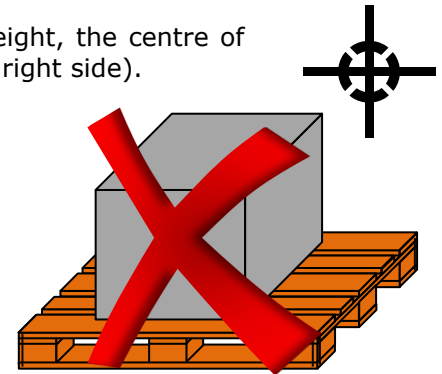


Non-vertical bands are **prohibited**.

- The SUPPLIER must ensure and, if necessary, prove to the CUSTOMER that the quality of its Euro or one-way pallets, **stacking** frames or pallet boxes is sufficient to handle the required bearing capacity. In addition to providing stackability, the required load-bearing capacity must cater for typical loadings and centrifugal forces for the respective type of cargo (see illustration to the right and on page 15 for ocean freight).
- The ground clearance of pallets and other transport aids must be at least 100 mm according to DIN 15145 and the free entry width must be at least 600 mm. Other loading aids are only to be used with the approval of the local logistic management of the recipient.



- Tilting safety must be ensured. If necessary, the freight forwarder must be instructed to use additional load securing devices. The width of the pallet must be two times one-half of the package height.
- In the case of transport units with an uneven distribution of weight, the centre of gravity must be marked by the prescribed standard symbol (see right side).
- In general, loading aids with the dimensions 1200 x 800 mm or 800 x 600 mm are to be used. The palletising must not waste load space, and if necessary, a half pallet or special pallet must be used which matches the box that is used (see illustration to the right). Minor pallet overhangs past the goods will be tolerated, as far as it serves the protection of the transported goods or ensuring tilt stability.
- Goods are not permitted to protrude over the edges of the transport pallet. If the external dimensions of the transported article necessitate this, a correspondingly larger pallet should be used after obtaining the agreement of the receiving plant's logistics department. The maximum dimensions (length x width of the transport unit) of 1200 x 800 mm apply to all land transports and all goods that can be transported on standard Euro pallets.
- Wooden boxes and crates are prohibited for the Dortmund plant. Sturdy cardboard boxes shall be used instead [7].



5.2.1. Packaging appropriate to loads

All packaging must be appropriately dimensioned for the applicable loads. If one-way pallets are permitted in the packaging specification, framework agreement or logistics agreement of a CUSTOMER location [7], these must be tested in accordance with DIN EN ISO 8611-1 "Pallets for the materials handling – Flat pallets". The SUPPLIER must also provide an inspection certificate from the pallet manufacturer via the respective logistics department, on request. In the event of transport damage, we shall, regardless of Incoterms and the responsibility for booking transport, assume that the packaging had not been dimensioned appropriately for the loads. In the event of transport damage or third-party liability damage (damage to third-party property), the supplier as the sender must verify that the correspondingly used packaging was able to withstand the load applicable as part of the net weight, stacking ability, centrifugal and deceleration forces that can be expected for the transport type as well as the corresponding lashing forces as specified in EN 12915 and VDI 2700 (securing cargo, lashing).

5.2.2. Exchange of empties and return transport, pool exchange packaging

DB Euro flat pallets (UIC 435-2) and DB Euro mesh box boxes (UIC 435-3) must be exchanged with the forwarder in exchange countries. Only containers of grade B or above will be exchanged. In accordance with DIN 15155/8 and UIC 435-3 / 435-4.

For this purpose, the SUPPLIER must accept exchange accounts with the forwarder. The frequency of coordination is the responsibility of the SUPPLIER and the forwarder. Compensation can be made by credit note, if necessary [7]. A like-for-like exchange is generally not possible.

POOL exchange packaging is usually exchanged one-for-one with the forwarder at the CUSTOMER's premises. For larger packaging quantities, a loading equipment document (LHM document) is filled out and given to the forwarder. The forwarder can use the LHM document to subsequently settle the balance with the CUSTOMER. The balance must be paid monthly or within 4 weeks of being requested [7].

Courier services for express journeys are not included in the pool exchange procedure. In such exceptions, the SUPPLIER must invoice the pallets in its goods invoice to reduce expenses. The SUPPLIER should avoid sending mesh box pallets by courier service as far as possible. If necessary, it must be agreed with the logistics department of the receiving plant beforehand whether the goods must be repacked onto pallets or returned at a later date [7].

Otherwise, the following regulations shall apply to SUPPLIER- or CUSTOMER-specific packaging, unless otherwise stipulated in individual agreement:

If the CUSTOMER is the carrier for full containers, the return transport of the empties shall be commissioned and paid for by the CUSTOMER.

If the SUPPLIER is the carrier (transport of goods), the SUPPLIER must organise and pay for the return transport.

5.2.3. Additional requirements for parcel shipments

- Small shipments (**individual** parcel shipments up to a maximum of 31,5 kg) may not be palletised.
- They must remain not-palletised so as to allow collection by a parcel service company.
- If a parcel within the outer packaging contains individual separated batches which are separated by means of cardboard boxes, trays, small load containers or bags, each individual batch must not weigh more than 10 kg, and the parcel must not weigh more than 30 kg. If batched packaging is not used, the parcel may only weigh up to 10 kg.
- **The EU is planning to lower the weight limit for parcels in order to improve the health protection of employees. A legal regulation with lower weight has immediate effect [7].**

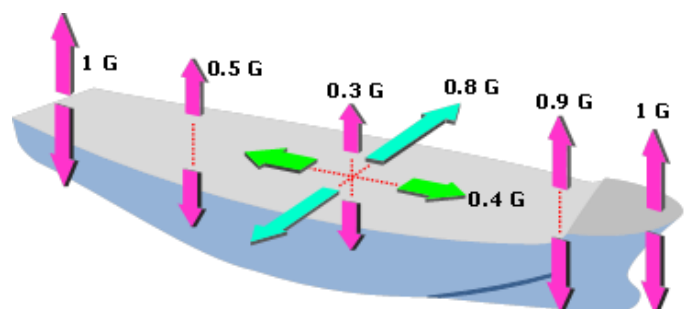
5.2.4. Additional requirements for shipments from non-EU countries

- Irrespective of this guideline, the packaging of transports crossing an external EU border must comply with the legal requirements of the destination country and all transit countries crossed.
- Timber from illegal felling (illegal logging) must not be used for product or packaging components. If applicable, the SUPPLIER (as the entity bringing products into circulation) shall observe all statutory obligations to produce supporting documents and regulations on the duty of care as per FELGT (Forest Law Enforcement Government and Trade) agreement.
- Pallets, timber frames, timber beams, timber wedges or other packaging components made from solid timber crossing an external EU border must comply with the respective currently applicable IPPC standard, which currently is ISPM 15. They must accordingly bear the IPPC stamp (see illustration to the right). In countries where HT (Heat Treatment) is available, the SUPPLIER is forbidden from using wood with MB (gassing using methyl bromide).
- For plywood or chipboard materials that do not require ISPS approval, the notice "PACKAGING CONSISTS OF NON-SOLID-WOOD" must be included on the commercial invoice.
- **The use of reusable packaging can also be checked for non-EU countries with the logistics department of the receiving plant concerned [7].**



5.2.5. Additional requirements for sea freight shipments

- Suppliers which supply via sea freight must always use the 1,140 x 760 mm export pallet unless otherwise specified in the packaging instructions for specific articles. Correspondingly suitable outer packaging (e.g. pallet boxes with reinforced corners) must be used. For smaller containers a corresponding half pallet or quarter pallet may have to be used **that is ideal for container loading in terms of length and width [7].**
- In addition to permitting double stacking, the packaging must also be adequately and correctly designed for the typical loadings which arise during marine transportation. In this respect it should be borne in mind that forces which are directed upwards reduce internal friction between the packages. Forces, which are directed downwards, add to the actual gravitational force "G" (see illustration to the right).
- Cardboard packaging for sea freight must be designed for a 7.5-fold upset pressure, analogous to a properly dimensioned box for land transport.

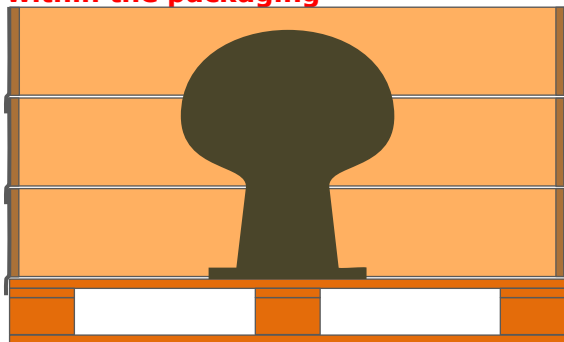


- The SUPPLIER must take the higher requirements for corrosion protection into account. The use of VCI paper or bags is preferable [7].

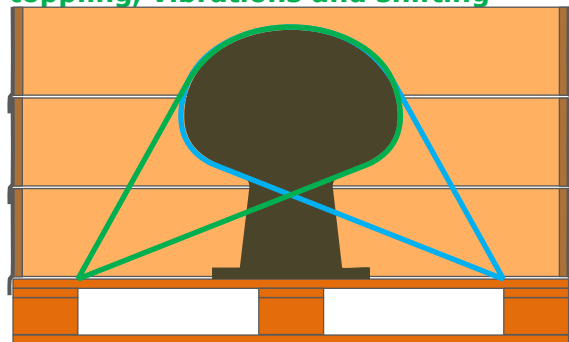
5.3. Requirements relating to the packaging process

- The SUPPLIER shall at all times be responsible for the packaging of the items to be sent to the CUSTOMER.
- The parts must be delivered with their quality unimpaired, free of contaminants, and in clean load containers that have no technical impairment of their load-bearing capacity.
- Sensitive parts must be padded properly and appropriately.
- If the CUSTOMER has not specified separate means of preservation, the goods must be preserved in a manner which is appropriate for the transportation distance, the climate zones crossed, and the season. The SUPPLIER must ensure that its goods can be used by the CUSTOMER without the latter incurring additional costs for removing rust or for repacking processes.
- As a matter of principle, horizontal forces must always be avoided in transport packaging. This also applies to mesh box pallets. In the case of goods where damage or hazards may arise due to vibrations, toppling, shifting or rolling, or due to the shape of the articles themselves, measures must be taken to absorb or prevent lateral forces. Such measures include the use of separator inserts, layer pads, internal strapping, stringers, wedges or filling material – see the following illustrations. Articles must never be nailed to a load carrier for safety reasons. A screwed connection is only permitted if instructed in the packaging specifications or after approval by the receiving plant [7].

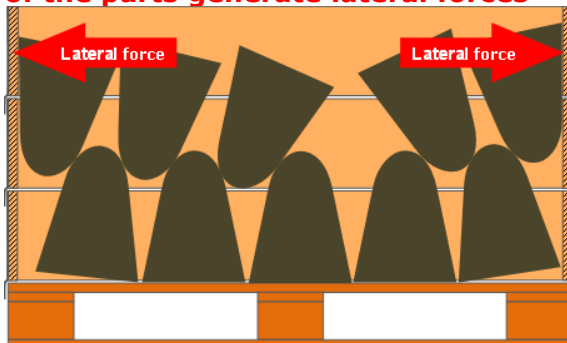
NOT OK: Goods can topple over within the packaging



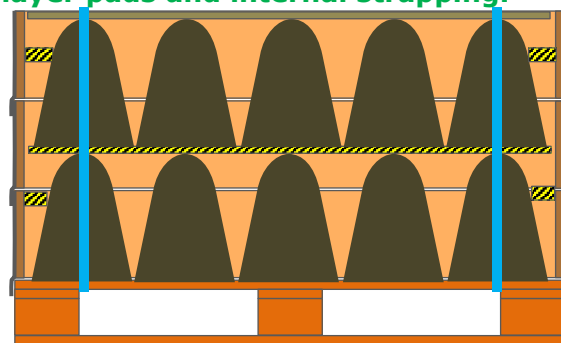
OK: internal strapping prevents toppling, vibrations and shifting



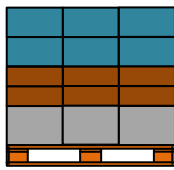
NOT OK: Type of packaging and shape of the parts generate lateral forces



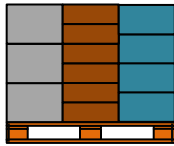
OK: Lateral forces are absorbed by layer pads and internal strapping.



- Pallet-size PVC sacks must be used for smaller parts which are packed as "bulk goods" in mesh box pallets, stacking frames or cardboard packaging. The plastic sack prevents them being lost through the pallet base or the weakest points in the external packaging.
- Goods must always be delivered sorted by item, i.e. one article per package. If mixed pallets cannot be avoided and have been approved by the purchasing department in question, the load containers for the individual articles must be clearly separated and organised appropriately so that each individual article can be removed until they run out (see following illustration).



WRONG:
 only the "blue article" could be removed.



RIGHT:
 Every article can be removed individually until all are used up.

Any deviations from the requirements described in the previous sections may be claimed by the CUSTOMER against the SUPPLIER as subject to a contractual penalty.

5.4. Determining the load weight

The SUPPLIER must ascertain the exact gross weights and consignment volumes for the subsequent steps, i.e. delivery notification, and transportation notification if applicable. This means that the weight in kg, the length, width and height measurements in cm and the volume in m³ must be determined for each load unit. For international parcel deliveries or air freight cm³ should normally be quoted instead of m³, so in these cases the volume in cm³ must be determined. For deliveries in containers, the gross weight of the packed container must also be ascertained and notified.

5.4.1. Maximum weight and dimensions

Unless agreed otherwise **between CUSTOMER and SUPPLIER [7]** in the packaging instructions or specifications and if the weight and dimensions of the material to be delivered permit it, the maximum weight including packaging material and transport aids per transport unit for each receiving plant is as follows:

Country / Location		Maximum weight for each delivery location		
		Transport-pallet (1)	Exception	Maximum standard height
EUROPE	DE Dortmund	1000 kg		1000 mm
	DE Unna	1000 kg		1000 mm
	DE Bergkamen	1000 kg		1000 mm
	DE Hof	1000 kg		970 mm
	DE Hof, Warehouse Leupold	750 kg		1050 mm
	FR Aubigny	1000 kg		1100 mm
	FR Laval or Louverné	750 kg		890 mm
	SE Växjö	750 kg		1200 mm
	UK Burton Upon Trent	1000 kg		500 mm
	Other countries	CN Beijing	750 kg	
CN Changzhou		1000 kg	750 kg wire mesh box 800 kg half pallet	1100 mm
IN Pune		No limit	(2)	1000 mm
IN Kolhapur		No limit		
KR Busan		800 kg		900 mm
RU Noginsk		800 kg		1100 mm
TR Istanbul	800 kg		1400 mm	

(1) 1200 x 800 mm EURO pallet or one-way pallet, 1140 x 760 mm export pallet or mesh box pallet.

(2) If agreed, 1000 x 1000 mm pallets and larger sizes shall be used.

Deviations from the above table due to geometry or weight relating to the article are permitted if these have been agreed in advance with the logistics department of the receiving plant [7].

5.4.2. Additional packaging process requirements for sea freight shipments

In the case of loading in containers, the supplier must use air bags if individual packages could topple over or shift because the spaces between them are too large (see illustration to the right).



The current CTU Code (Code of Practice for Packing of Cargo Transport Units) of the International Maritime Organisation (IMO) and the International Labour Organisation (ILO) must be observed [7].

In the case of loading for provision to freight carriers or their container packing service providers, the SUPPLIER must instruct the forwarder accordingly in writing. Palletisation, outer packaging and strapping must be arranged in such a way that the forwarder or their container packing service provider can comply with the CTU Code [7]

- For articles prone to corrosion, the goods must initially be packed in a VCI pouch.
- All remnants of adhesive tapes must be removed from the doors of shipping containers prior to loading.

5.5. Alterations to / changes of packaging

The SUPPLIER is entitled to propose new packaging standards to the CUSTOMER at any time. Furthermore, should this be necessary it is obliged to assist with the reassessment of the packaging if requested to do so by the CUSTOMER. In doing so, the potential effect of the cost change, stackability or the static and dynamic load-bearing capacity must be communicated to the CUSTOMER according to "open book" principles, and in the case of reusable containers also the ease of folding and dimensions when folded.

Before such approval is provided, they cannot however be used for supplying series production operations. The new rule applies to the supplying of series production only after a new system has been created and jointly approved.

Packaging tests must be coordinated in advance with the logistics department of the CUSTOMER's recipient factory in a way that warrants its tracing and evaluation. If the suggested packaging is not compatible with CUSTOMER processes, the CUSTOMER has the right to reject it [7].

6. Marking and package labelling

6.1. Marking of the articles themselves

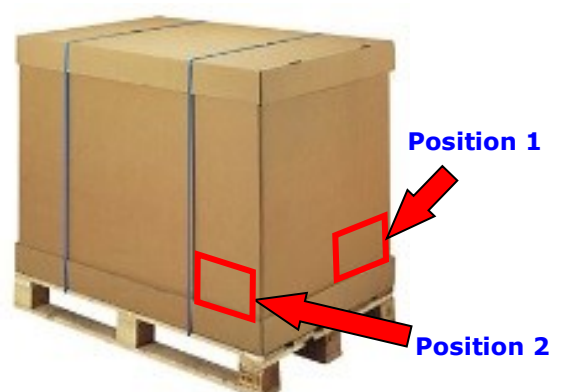
When they are delivered, both the (re)packaging and the products themselves must be marked according to the agreements entered into with the CUSTOMER and the other applicable packaging instructions.

6.2. Requirements for labelling

If there are label holders on reusable packaging (small load carriers and large load carriers), these must be used for package labelling [7].

Otherwise, transport units with two package labels in accordance with VDA 4994 GLT (210x148 mm) must be labelled on two consecutive sides with regard to content.

For package deliveries, one label on each side is sufficient (see also the image in 6.3.). VDA labels are automatically generated and issued via the WEB EDI



portal of the CUSTOMER at the same time as the delivery notification. The same applies for mixed pallet labels. For notifications via EDI, the system of the SUPPLIER must generate the notifications.

The GLT VERSION 4.0 labels in accordance with the VDA 4902 standard, which are very close to the newer VDA 4994 in terms of content, may continue to be used until further notice. Suppliers switching from VDA 4902 to VDA 4994 may switch to the new standard without prior consultation.

The labelling must always be applied on the bottom quarter of pallets to make sure that it remains intact if the tops of half-used pallet boxes are cut off or stacking frames are removed (see illustration on the right).

Only with DIN mesh box pallets is the labelling to be applied to the label panel on the top right of the front flap. The labelling on the short side must also be applied at the top right.

Markings must be securely affixed so that they do not fall off. The basic rule is that paper labels may only be stuck onto single-use packaging. It is not permitted to stick labels onto reusable packaging. On GLTs or KLTs, markings must be inserted into label holders provided for this purpose. In the case of mesh box pallets and reusable containers without label holders, a self-adhesive dot which can be removed without leaving any residue may be used if necessary. This equally applies to package labels and document pouches.

Empty KLTs or cardboard boxes which are used solely to provide stackability should be marked as such.

The VDA 4994 GLT or VDA 4994 KLT label may be used for delivering individual KLT or boxes and labelling batch size KLTs. This must be attached to the short side (front side). If the box or KLT is too small to use an unfolded GLT label, the KLT label must be used.

If a SUPPLIER's own label according to another standard is accepted in the packaging agreement for a transition period of maximum 6 months after signing the logistics agreement, additional labels (e.g. address labels) must be added with data from the VDA 4994 [7] standard that is missing.

The SUPPLIER's own labels must be approved by the CUSTOMER on a location-specific basis. If WILO standard containers are used, the SUPPLIER must comply with the VDA 4994 standard. However, the previous VDA 4902 labels remain valid until further notice. If the VDA standard is not complied with after the agreed transition period has expired, a contractual penalty will be charged for each delivery [7].

The minimum specifications (without a VDA sticker) are as follows: Delivery note number, CUSTOMER article number, quantity, package number, CUSTOMER order number, order item and batch number [7] each as a barcode in Code 128 in addition to plain text. The gross weight has to be noted in plain writing, for this, no bar code is needed. For the stick-on address label, the following information: sender, goods recipient.

Shipments which consist of several packages for one delivery note must be numbered consecutively (e.g.: "Pallet 1 of 3"). This does not apply if the VDA label is used.

If the CUSTOMER demands the batch number, this must be shown on the label enclosed with the delivery in the field provided for this purpose. The same applies in respect of the version number / revision status of the drawing. If packages have to be repacked into KLT by the CUSTOMER or a commissioned service provider, an agreed number of labels with the corresponding batch information must be supplied with each delivery after prior agreement [7].

6.2.1. Note regarding mixed pallets

The use of mixed pallets should be avoided whenever possible. However, if mixed pallets are sent, this must be made clear by using a master label (VDA-4994) incl. barcodes. The master label must be affixed to two adjoining sides of the pallet.

6.2.2. Alternative field assignment

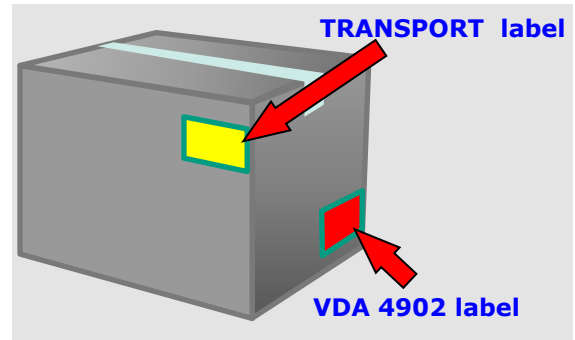
Provided that the SUPPLIER has generated the transport labels via the WEB EDI portals of the CUSTOMER, the portals will deliver the correct transport labels. If the SUPPLIER sends delivery notifications via EDI, the SUPPLIER should configure the necessary assignment in the system. Alternative assignments can be agreed on an individual basis.

The label VDA-4902 permits the following alternative field assignments:

Field	Required assignment (VDA identification)	Alternative assignment
(2)	Unloading point and storage location of the CUSTOMER (2.1 and 2.2)	Place of use (2.3), usage key (2.4), goods recipient long text (2.5)
(11)	CUSTOMER item number for packaging materials (11.2)	SUPPLIER item number for the article (11.1)
(13)	Shipping date (13.2)	Production date (13.1) or expiry date (13.3)

6.3. Transport labels

Labels for transport purposes (for example DHL shipment labels) are to be applied according to the transport service provider's specifications. In the case of parcel service providers, the label for automatic scanning is usually to be applied on the side of the parcel at the top. In this case, the SUPPLIER must always use the long side (see the following illustration). The short side is for the CUSTOMER's label. Here too, the customer's label is to be applied on the bottom quarter. CUSTOMER labels must not be covered up by the transport service provider's labels.



7. Release/Notification of the transport

7.1. General information about transport notifications

For all Incoterms that assign responsibility for partial or full assumption of transport costs and risks to the CUSTOMER (e.g. EXW, FCA, FOB), the SUPPLIER must send a transportation release separate from the delivery notification. Release is issued via the Wilo Logistics Portal. The regional forwarder designated by the CUSTOMER for the SUPPLIER location and the corresponding shipment size is commissioned by the CUSTOMER on the basis of the SUPPLIER's release [7].

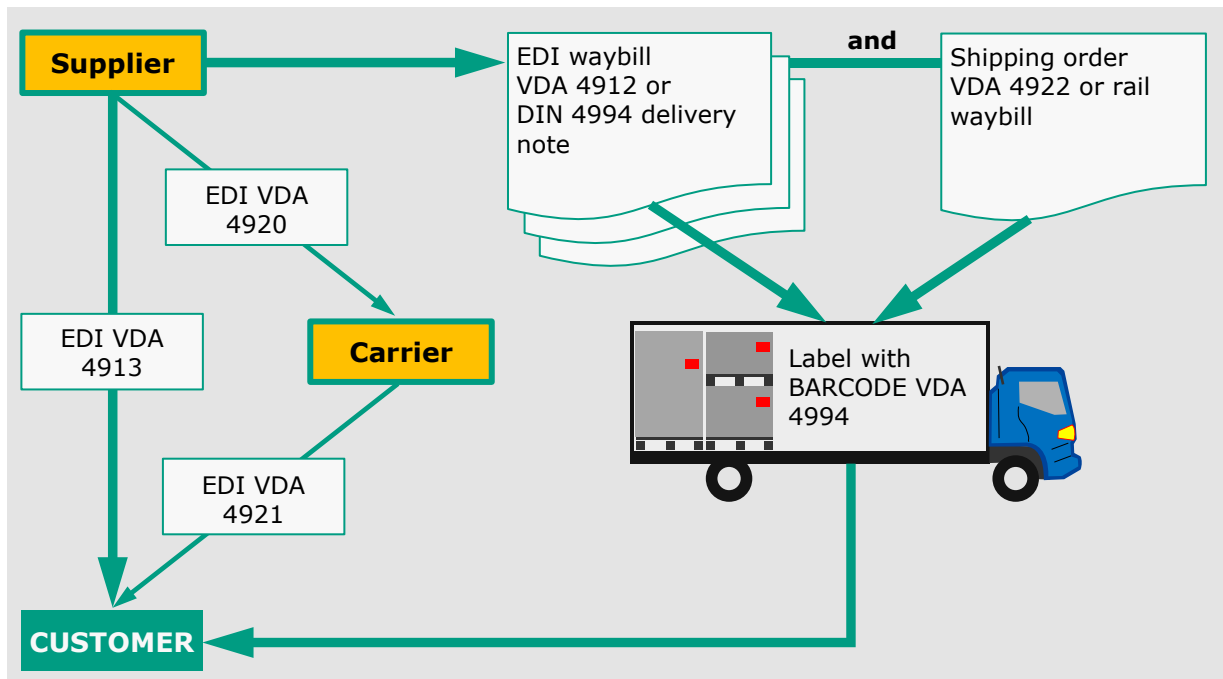
The SUPPLIER is solely responsible for transport	The SUPPLIER and CUSTOMER are each responsible for one part	The CUSTOMER is solely responsible for transport
NO release required by the CUSTOMER	Release required by the CUSTOMER (see exception)	

The individual transport case is the deciding factor here, not the general Incoterm agreement. If transport takes place in accordance with point "Compensation of extra costs for non-standard shipment", the SUPPLIER shall be solely responsible for the transport costs, even if other generally agreed Incoterms apply. If, in this case, the transport nevertheless takes place via the CUSTOMER's own logistics portal and transport network due to the simpler notification process, the receiving plant can bill the SUPPLIER for the costs on a pro rata basis [7].

Exception

If the SUPPLIER is permitted to use the SUPPLIER's own transport network and its own forwarder with the express authorisation of the CUSTOMER's Purchasing department within the framework or logistics agreement, the CUSTOMER does not require a release [7]. In this case, the transport must be invoiced via an invoice or an item on the SUPPLIER invoice for the goods. Third-party invoices are not accepted.

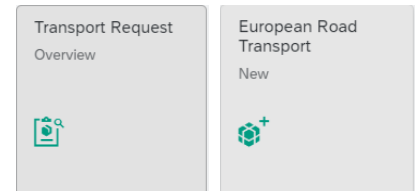
7.1.1. Interaction of VDA notifications and delivery process documents



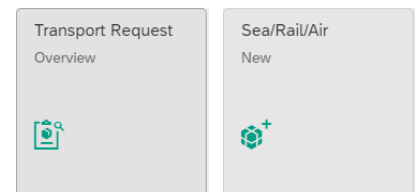
When transport orders are approved via the Wilo Logistics Portal, the messages are sent to the forwarder by the CUSTOMER system [7].

7.2. Release of transports via the Wilo Logistics Portal [7]

Land freight SUPPLIERS with Incoterm EXW or FCA who have been granted access to the CUSTOMER's logistics portal and have reached the activation date will release transport units for collection by the CUSTOMER via the Wilo Logistics Portal www.logistics.wilo.com. SUPPLIERS who are highly reliable in terms of timely readiness for transport of confirmed delivery dates can use the "Transport Request – Overview" tile, since orders with the same delivery date and receiving location are already summarised there. Otherwise, the "European Road Transport – New" tile offers a streamlined release process for collection.



Overseas suppliers with Incoterm FOB and who are highly reliable in terms of timely readiness for transport of confirmed delivery dates can also find the "Transport Request – Overview" tile in the Wilo Logistics Portal. Otherwise, the "Sea/Rail/Air – New" tile offers a streamlined release process for the planned handover to the CUSTOMER's forwarder or their container packing service provider.



The release process itself is practically the same for land freight and overseas freight. The difference between land freight and overseas tile results from the additional selection of the transport carrier and container types for sea freight.

In the Transport Request Overview tile, the automatically summarised (due) order references are already included in the "Planned References" section. The collection date is also already set with Road freight. The SUPPLIER only needs to add additional order references from the "Available References" section. In the "New" tiles, all open orders must be clicked together to match the SUPPLIER's transport unit.

In the release process of the "New" tiles, the day of collection (for Road transport) or handover of the goods to the forwarder (for Sea/Rail/Air transport) must also be selected. In the case of overseas deliveries, this can also be agreed with the forwarder in advance in order to shorten the time until the departure with the next ship, rail or air transport. The preliminary leg of transport to the harbour can

also be started in coordination with the forwarder before release is issued. Otherwise the lead time for overseas deliveries is at least 5 working days.

Overseas suppliers with a different Incoterm (including FCA) cannot yet avail of this process and must therefore observe chapter 7.3 "Transport notification outside the Wilo Logistics Portal" until the corresponding process is available.

Transport of a released shipment is planned and monitored by the Wilo Control Tower. The Wilo Control Tower is operated by the company 4flow, as a 4PL service provider of the CUSTOMER. 4flow is not a transport company. The Wilo Control Tower serves as a central point of contact for all queries and exceptions for planning and logistics employees of the SUPPLIER, the CUSTOMER and the local forwarders of the CUSTOMER. **This does not apply to parcel shipments.** The enquirer must be able to specify the freight order (FO) in question using at least the transport unit (TU-ID).

Contact: wilo-controltower@4flow-service.com

Issuing the **release** via the CUSTOMER's logistics portal has several advantages for the SUPPLIER:

- If the CUSTOMER changes the forwarder en route, nothing changes for the SUPPLIER.
- Closing times of the CUSTOMER and public holidays are automatically considered in the transit time.
- The system saves SUPPLIERS from manually backdating the registration and collection date.
- Delays in collection and delivery caused by the forwarder of the CUSTOMER are recorded and not falsely attributed to the SUPPLIER.

7.2.1. Release process via the Wilo Logistics Portal

- "Transport units" are displayed on the logistics portal. All orders and delivery schedules from the same SUPPLIER, with the same collection date and receiving location, are combined into one transport unit. If the loading capacity of a standard semi-trailer **or overseas container** (24 tonnes) is exceeded, an additional transport unit is created. Familiar packaging specifications for each product reduce the number of corrections for the SUPPLIER. A transport unit automatically considers public holidays in the country of collection and the destination country. For each transport unit, the SUPPLIER is shown the latest release date, target collection date and target delivery date. The order references of the CUSTOMER are also displayed. The running time is automatically assigned, based on the longest implemented route.
- The SUPPLIER must carry out a plausibility check on order reference numbers and packaging items before 11:00 am CET of the **latest release** date, correct orders, quantities and package information (type, number, dimensions, stackability and weight) if necessary and release the transportation unit. The **latest release** date is one to two days before collection, depending on the route. **The booking lead time may be longer for overseas SUPPLIERS. Details on this are communicated in the routing order.** If the scheduled pick up or hand over date cannot be met when transport is released, the SUPPLIER must indicate so immediately by e-mail to the Wilo Control Tower. **Overseas SUPPLIERS must CC the contact person from the assigned forwarder.**
- A distinction must be made here depending on the receiving location. Orders from different locations must not and cannot be clicked together in the same transport unit. Partial quantities of orders must be entered.
- Additional order numbers provided in the shipment that are not planned in the same transport unit must be added via the "Edit References" dialogue. This is usually the case when several transport units are created for the same collection date due to the weight exceeding 24 tonnes, for items in backlog or for items that are still in the pipeline for the next week.
- Furthermore, the mode of transport must be selected for overseas SUPPLIERS. The following applies here: If the SUPPLIER delivers goods by lorry to the forwarder's container packing service provider, this is considered a LCL regardless of the shipment size. It is only considered an FCL booking if the SUPPLIER packs the container themselves and makes it available at the container yard. For an FCL, the container type must also be selected.
- If an exchange of Euro pallets or mesh box pallets is requested (only for pool exchange countries), this must be registered in the release process in the portal.
- Requested documents can be uploaded at the time of release if they are already available. This step can still be carried out after release but should be done immediately after loading at the latest.

However, for certain SUPPLIERS, the packing list may be mandatory at the time of release. The packing list in the form of an EXCEL spreadsheet may also be mandatory. Operational Procurement or the Wilo Control Tower will notify of such an exception.

- For overseas shipments, the commercial invoice and packing list should ideally be uploaded to the Wilo Logistics Portal at the time of release. This must be before the shipment is handed over to the forwarder / container packing service provider at the latest. The export approval in the country of dispatch must also be available to the forwarder before the goods are handed over.
- If a transport unit of less than 31 kg is released, the SUPPLIER receives a notification from 4flow instructing the SUPPLIER to create a parcel shipment. Currently the release of a parcel shipment via the Wilo Logistic portal does not trigger an automatic booking of a parcel transport. If nevertheless release is required for issuing the subsequent delivery notification, the SUPPLIER must also place the parcel order in accordance with 7.3.5. The following applies here: (nationally a maximum of 4 parcels of 31 kg each and NOT palletised / internationally a single parcel of 31 kg applies). However, if the parcels concerned are palletised, e.g. on quarter or half pallets, it is considered a partial load shipment that must be correctly released in the Wilo Logistics Portal and is not a parcel shipment [7].

7.2.2. The freight order is placed by the CUSTOMER after the TU is released

- After the SUPPLIER has released the transport unit, the Wilo Control Tower checks this, assigns the CUSTOMER's forwarder based on regulations and finally creates the freight order, which is then commissioned to the selected forwarder from the CUSTOMER's transport management system without delay. Compliance with the delivery deadline takes the highest priority here.
- At the same time, the SUPPLIER receives an automatic e-mail with a PDF entitled the "Supplier Assignment Sheet". This contains the freight order, names the forwarder and contains all important data, e.g. addresses, opening hours, date and contact person for collection and delivery, references as well as packaging data and transport volume [7].
- The Wilo Control Tower will track the shipment and ensure punctual collection and delivery.

7.2.3. On collection day [7]

- For security purposes, the SUPPLIER should ensure that the person collecting the goods can provide the freight order number. As the forwarder may have subcontracted the collection, it may also be a forwarder with a different name.
- Only goods that were either released or previously corrected via communication to the Wilo Control Tower may be loaded. If several freight orders are being collected at the same time, the SUPPLIER must load according to the freight orders and may not mix these or load them at random.
- The SUPPLIER (SENDER) who uses a CMR instead of a shipment note, but in principle is a SENDER abroad, should fill in the sender's address and the comment: "On behalf and warrant of WILO SE" in Field 1 of the CMR. This complies with the FCA Incoterm. The reference field (Field 6) must list the Wilo freight order number first. SENDER may write their own references underneath. The Incoterm and the handover location should be noted in Field 15. Transport insurance does not need to be completed as Wilo is self-insured.
- Required documents must be uploaded to the relevant transport unit via the Wilo Logistics Portal www.logistics.wilo.com on collection day at the latest, unless this was already possible when the transport unit was approved.

National SENDER and SENDER from EU countries	Delivery note Packing list, if exception obligation by Purchasing.
SENDER outside the EU	Commercial invoice, packing list and CMR, if necessary all other documents required for import customs clearance.
SENDER from overseas	Commercial invoice and packing list, if necessary all other documents required for import customs clearance. The AWB or B/L if this is already available to the SENDER, otherwise the forwarder is responsible for this.

7.2.4. Informing the Wilo Control Tower if exceptions arise

The Control Tower must be informed by sending an e-mail containing the FO ID number to **wilo-controltower@4flow-service.com**, if:

- the SUPPLIER must postpone the collection (for road freight) or handover (for sea freight),
- the transport volume changes after release,
- no transport vehicle arrives on the specified collection date – this applies even if the transport vehicle arrives too early, and not all goods that **were ordered** can be loaded as a result,
- the SUPPLIER is expecting transport units for **release** on the portal, but they are not displayed,
- the planned collection date collides with unscheduled closing times of the SUPPLIER,
- **the general opening hours in the "Assignment Sheet" are no longer up to date,**
- the SUPPLIER temporarily does not have access to the CUSTOMER's logistics portal, due to IT or Internet problems.

If, in exceptional circumstances, the freight order number cannot be specified because it has not yet been created, the transport unit ID must be specified [7].

7.2.5. E-mail alerts as a reminder

- **Transport units** that are not released by 8:00 am on the latest release date are reported to the SUPPLIER by an automated e-mail alert. The SUPPLIER is then obligated to review the scope of the orders in question and approve them by 11:00 am to prevent delays in the delivery.
- **Transport units** that are not released by 11:00 am on the latest release date are reported to the SUPPLIER by another automated e-mail alert. This alert is also sent to the responsible planner of the CUSTOMER to indicate a potential delay.
- For delayed orders of this kind for **transport units**, the SUPPLIER must update their order confirmation via EDI/WEB-EDI (**see 4.4.2. Differing delivery dates, page 11**). For delivery schedules, the SUPPLIER must inform the CUSTOMER's supply chain manager, so that they can amend the scheduling availability of the request in the system. This postpones the transport request to a future time and creates a new transport unit.
- The contents of delayed transport units (purchase orders and delivery schedules) are kept in the release process in the Wilo Logistics Portal under the tab "Edit References" to be allocated to other transport units.

Delayed transport units usually result in delays or express transport costs and have an impact on the SUPPLIER's reliability measurement (see chapter, DOT, Delivery On Time, page 33) [7].

7.2.6. Transporting the goods [7]

The forwarder executes the freight order, sends event data to the CUSTOMER's system and agrees on their freight invoice with the Wilo Control Tower. Ordinarily, the SUPPLIER has no further obligation for the processes after release, documents are uploaded and faults for collection have been recorded.

However, in exceptional circumstances, queries from the Wilo Control Tower or the plant's Logistics department can be addressed to the SUPPLIER in order to clarify the cause of delays, additional costs or transport damage. The SUPPLIER is obliged to provide evidence, e.g. to clarify load differences between the information provided by the SENDER and the forwarder.

7.2.7. Delivery notification (currently in development) [7]

The CUSTOMER is currently developing the process for creating a delivery notification based on the release. This is advantageous for the SUPPLIER because the orders have already been clicked together for the release, meaning these entries do not have to be repeated in the WEB-EDI portal. Affected SUPPLIERS will be informed in due course by Wilo or the Wilo Control Tower and provided with illustrated user instructions. The process is to be implemented from the following shipment after the agreed start date.

7.3. Transport notification outside the Wilo Logistics Portal

This is only permitted in exceptional circumstances, if

- the SUPPLIER has not yet received access to the CUSTOMER's logistics portal,
- the activation date has not yet passed,
- an exception has been agreed with the CUSTOMER's Purchasing department in the framework or logistics agreement,
- in the case of parcel shipments,
- the SUPPLIER themselves is the freight payer.

The SUPPLIER must book shipments in good time by the means described in the last routing order of the concerned **plant's Logistics department of the CUSTOMER**, either on the online portal of the local forwarder or via an e-mail to the local forwarder or the CUSTOMER's contact person.

The commissioning of transport service providers other than those named in the routing order shall only be accepted after approval by the concerned plant's Logistics department of the CUSTOMER. If the SUPPLIER independently commissions another transport service provider, this can only be undertaken at the SUPPLIER's expense.

7.3.1. The transport notification to the forwarder must contain the following data:

- Collection date and time
- Collection site with exact loading point
- Receiving plant with exact unloading point
- Number, stackability and type of load carriers/packaging
- Total weight of the shipment and loading metre or cubic metre of the shipment
- Hazardous goods classification, if applicable
- Delivery date (target date, arriving at the corresponding receiving plant)
- If an exchange of empties is needed, this must be requested in the comment field of the form

7.3.2. The following must be entered for each handling or transport unit:

- the type of individual transport unit or transport packaging,
- the content of the individual transport unit, which consists of one or more article numbers and the associated quantities and order numbers/item numbers,
- size, gross weight and net weight of the individual transport units, whereby the width and length are usually already determined and prescribed by the type of pallet used. If the dimensions deviate from the presumed values, these must be overwritten with the actual dimensions.

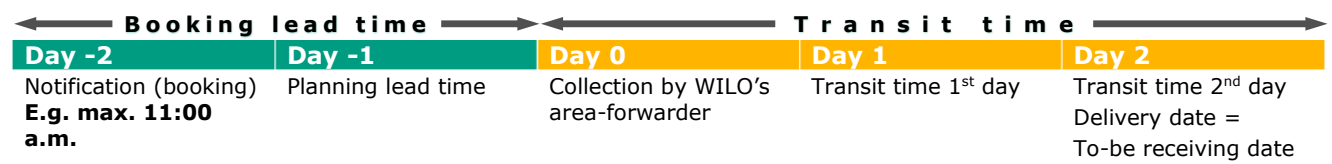
7.3.3. Factually correct and timely notification

A notification of shipment is factually correct if the shipment data and packaging information are correct and the right carrier has been selected.

In order to provide notification on time, in addition to the planning lead time stated in the routing order and the transit time the SUPPLIER must in particular also take account of the transport services provider's respective registration deadline. Refer to the individual routing order for the transit times, lead times and deadlines to be taken into account or query them from the Logistics department of the receiving plant.

For receiving plants in Germany, these have been specified in the "Wilo_Inbound_transit_time_tables_to_German_locations" document.

For instance, the following applies to national goods shipments within Germany:



If a fixed delivery frequency or date has been agreed between the CUSTOMER and the SUPPLIER, it must be adhered to. The systems for planning material requirements and determining delivery dates take account of these target dates for the receipt of goods through automatic scheduling. The SUPPLIER is only responsible for booking the consignment on time. The local forwarder of the CUSTOMER is responsible for collection and delivery.

The SUPPLIER must consider the closing times of the CUSTOMER (provided the SUPPLIER has been informed of them), the closing times of the SUPPLIER, Sundays and public holidays as well as country-specific, holiday-related and/or regional driving restrictions on LGVs, including transit regions within the planned transport time, on the planned date of collection or arrival by issuing an earlier transport notification. If information is required, contact the carrier in question directly for details of the transit options/times.

If necessary, the SUPPLIER must keep a record of its regular meeting of deadlines. If early or late registration results in the early or late receipt of goods, this is factored into the SUPPLIER's supplier rating.

The following applies to surface shipments, both to the planning period (registration with carrier until collection of shipment) and the transit period: Transportation days are Monday to Friday only. Only during the main leg of marine transits can Saturdays and Sunday be counted as transportation days. However, unloading or customs clearance cannot generally be carried out on Saturdays and Sundays. If necessary, corresponding exceptions must be agreed with the relevant regional contract carrier and the CUSTOMER's incoming goods department.

7.3.4. Routing order or notification of shipment

The name of the local forwarder, the Internet addresses or e-mail addresses required for transport notification and the general conditions are usually communicated by e-mail. This so-called routing order also describes the registration process for new shipments and, if applicable, provides the link, login name and initial password for the required forwarding portals. Different transport instructions may apply depending on the CUSTOMER receiving plant.

7.3.5. Booking of shipments consisting only of packages

A parcel shipment (national) may consist of a maximum of 4 parcels of 31kg each and may NOT be palletised. A single 31 kg parcel may be shipped internationally. Larger shipments must be palletised and reported accordingly to the local forwarder named in the routing order.

SUPPLIERS who exclusively ship packages must indicate this as an exception to the CUSTOMER's Logistics department.

For deliveries consisting only of packages, the SUPPLIER books the shipment as agreed with the CUSTOMER's Logistics department,

- depending on the individual agreement between the SUPPLIER and the plant's Logistics department of the CUSTOMER, the SUPPLIER must register the parcels in the CUSTOMER's supplier portal of the named parcel service provider. For shipments to plants in Dortmund and their external warehouse service providers the DHL supplier portal of the CUSTOMER shall be used,
- If expressly approved by the CUSTOMER's Logistics department, the shipment can also be booked via the SUPPLIER's DHL portal or, if a separate EDI order is available, "at the expense of third parties" (this means at the expense of the CUSTOMER),
- alternatively, the SUPPLIER may be permitted to use its preferred other parcel service provider, provided that the costs for this are acceptable and it is ensured that the freight costs are passed on to the CUSTOMER by the SUPPLIER themselves. Furthermore, it must be ensured that the CUSTOMER is not charged for standard transport orders [7].

8. Making available, loading, documents

The delivery notification and shipment notification which may have to be sent by EDI or WEB EDI is supplementary and it does not invalidate the following points.

8.1. Documents for intra-community deliveries

For all deliveries, the documents must be enclosed with the goods, appropriately affixed in a self-adhesive document envelope (see illustration to the right) so that they can be seen from the outside. Positioning must always be on the long side of transport unit. If the shipment is to be carried out by a carrier, the accompanying documents must always include a bill of lading. An EDI waybill according to VDA 4912 is required in every case. For freight orders that the SUPPLIER has approved via the WILO logistics portal, there is no need to enclose the freight order or the EDI consignment note.



If documents are lost in transit, the SUPPLIER shall provide copies by email at short notice upon request.

The CUSTOMER can claim for damages in the form of a contractual penalty if required information (see 8.1.1.) is missing from or incorrect in the delivery documents [7].

8.1.1. Delivery note

The delivery note can be a print-out of the EDI VDA 4912 waybill. Otherwise, it must contain at least the following information:

General information

- Delivery note no.
- Supplier no. *
- Shipment number
- Sender details
- Recipient details

Data for each delivered item

- CUSTOMER order no. *
- CUSTOMER order item *
- CUSTOMER material number *
- Number of parts delivered
- Number of containers/packages
- Container type/packaging

* = Please refer to the order for this information.

8.1.2. Packing list

This must be supplied with the delivery and inserted in the same delivery schedule envelope if the delivery note does not match the print-out of the EDI VDA 4912 waybill, and if the shipment is made up of more than one material number and more than one transport unit (handling unit).

It must contain at least the following information:

Information

- | | |
|------------------------|------------------------------|
| ▪ Sender | ▪ Package number |
| ▪ Goods recipient | ▪ Number of items |
| ▪ Delivery note number | ▪ CUSTOMER's material number |

8.2. Deliveries which cross an EU external border

The SUPPLIER must always take special care to comply with the documentation obligations for the exporting country and the importing country so that neither the export nor the import is affected by delays or additional costs due to a refusal to grant customs clearance owing to inadequate documentation.

The SUPPLIER must include the commercial invoice and packing list for the shipment in a self-adhesive document pouch in accordance with 8.1. A separate delivery note is not mandatory if this is not customary in the country of dispatch and is not issued by the SUPPLIER. If a delivery note is nevertheless issued by the SUPPLIER, a copy must also be provided along with the shipment [7].

If applicable, the NON-SOLID-WOOD declaration should be noted in the detail section of the commercial invoice with a corresponding notice, e.g. "PACKAGING CONSISTS OF NON-SOLID-WOOD". A separate document will be accepted in exceptional cases but must be enclosed without fail.

The supplier/exporter must provide all the documents required for customs/import processing without delay, in particular commercial invoices, packing lists, freight documents (bill of lading / AWB), certificates of origin, and preference documents.

In countries where the import process requires originals to be submitted, the SUPPLIER must ensure that they are sent separately via an express document delivery service to the respective import department of the CUSTOMER's receiving plant.

Import levies imposed due to missing customs documents (in particular certificates of origin and preference documents) can be passed on to the supplier by the CUSTOMER.

8.3. Allocation of a shipment to several delivery notes according to Point 6.2.

SUPPLIERS which transact special processes with the CUSTOMER as well as conventional order processes (standard orders and delivery schedules), may have to allocate their shipments between more than one delivery notification. A shipment is the total of all the articles to be loaded on the same lorry in any one day which are addressed to the same receiving location. Because the delivery notification number = delivery note number, the following currently applies:

a separate delivery note for:

Deliveries relating to "conventional" order processes	SMI delivery	Kanban delivery
Order updates and delivery schedule updates, different article numbers and different order numbers... can be shown together in one delivery note	(several articles are allowed on one delivery note)	(several articles are allowed on one delivery note)

If the planned shipment is larger than the available loading space of the collecting vehicle, then it should be split up into multiple shipments. In this case, one shipment = one transport = at least one delivery note (multiple delivery notes are possible).

8.4. Making available and loading

The shipment must be available in good time for loading.

The SUPPLIER must always carry out the loading, irrespective of the Incoterms. The goods must be properly loaded using appropriate equipment so that they will not be damaged during transportation, and the goods and their packaging must be loaded with care in a way which preserves their quality. The following basic loading timings apply if the CUSTOMER pays the freight charges:

- General cargo max. 30 min
- Partial loads max. 60 min
- Full loads max. 120 min

As the loading party, the SUPPLIER shall carry joint responsibility for correctly securing cargo in accordance with EN 12915 and VDI 2700 as per valid European and German legislation. We expect that all statutory stipulations specifying the roadworthy loading of cargo are complied with for all countries the shipment passes through and we shall not take any responsibility in the event of any infringements.

Upon delivery to locations with loading ramps, pallets must always be placed lengthwise in the delivering vehicles and industrial trucks must be able to drive underneath them so that time is not lost unloading them during ramp unloading. Unloading must be possible without damaging the pallets and without additional turning of the pallets with the help of pallet trucks. In the event of partial loading, complete loading and container loading, the loading party shall already be responsible for this upon loading vehicles or containers. Please refer to the section entitled "Unloading at ramps" for an overview of locations and their unloading situations. **If a shipment does not comply with this loading scheme, the SUPPLIER may be charged for any additional work required for the unloading process.**

Third-party goods must not block the CUSTOMER's goods. The CUSTOMER may not move third-party goods. The SUPPLIER must therefore ensure that unloading is possible. See Unloading of third-party goods is prohibited, page 33. [7]

9. Notification of delivery (ASN, Advanced Shipping Notification)

Irrespective of the Incoterm, the SUPPLIER must notify all shipments to the CUSTOMER in good time. On-time / punctual notification includes: directly at the time of loading, but no later than 15 minutes after the loading of the collecting lorry. The shipment notification must conform to VDA delivery note VDA 4913 ("DESADV").

9.1. For which types of orders do deliveries have to be notified?

Conventional processes	Confirmation
Standard ordering	Obligatory
Kanban (basis is currently a standard order)	Obligatory
Version: subcontracting	Obligatory
Version: cost centre ordering = no material number ↳ For services = no shipment ↳ For goods = physical shipment	Optional
	Obligatory
Delivery schedule	Obligatory
SMI delivery (basis is delivery schedule)	Obligatory

The CUSTOMER can complain about missing or incorrect delivery notifications and claim for damages in the form of a contractual penalty [7].

9.2. More than one delivery notification for one shipment

Currently in the CUSTOMER system: delivery notification number = delivery note number

- The main number of the delivery is the delivery note number, however only 10 digits can be input. As a result, if the SUPPLIER delivery note number has more than 10 digits, the last 10 digits should be entered.
- A 10-digit delivery notification can be entered on the WEB-EDI (SSP Portal, Seeburer Supplier Portal). Multiple orders can be combined.
- At present it is not always possible to combine several delivery notifications into one so-called "shipment" in the CUSTOMER's system. Delivery notifications – and consequently also delivery notes – relating to order documents should be drawn up separately from those relating to delivery schedules, and those relating to SMI deliveries separately from those for Kanban deliveries.

In other words, a separate delivery notification and consequently a separate delivery note, for:

WEB-EDI (SSP-Portal)		Wilo Logistics Portal
Deliveries relating to "conventional" order processes (1)	Kanban delivery	All transport items
Order updates and delivery schedule updates, different article numbers and different order numbers... can be shown together in one delivery note	several articles are allowed on one delivery note, but not obligatory to do so.	All items must be included in a delivery notification. The SUPPLIER must upload all delivery notes for the shipment to the transport unit.

- Sites that do not use WEB-EDI yet may have specified deviating regulations in their framework purchasing agreement, logistics contracts and local delivery guidelines.

9.3. Data to be input per delivery notification

The delivery notification must conform to VDA 4913 (notification type "DESADV").

The following applies to the delivery notification, as it does the order confirmation: the relevant step in this regard is not its production, but the sending of it (so-called release).

The packaging structure as packed must be provided for up to 3 levels. Samples are provided in the appendix under the heading "Sample packaging structures to be specified in a delivery advice".

The total gross weight of the shipment shall be plausibly indicated at document header level and, if necessary, the value must be overwritten with the actual value.

9.4. Action to be taken if incorrect delivery notifications are sent

If the SUPPLIER realises that they have sent an incorrect delivery notification despite all due care, this must be reported to the responsible contact person at the receiving plant concerned without delay in order to prevent an incorrect goods receipt booking. Operational Procurement is responsible for Dortmund locations. In other locations, it is usually the Goods Receipt department [7].

The delivery notification must then be cancelled and created again with correct data.

10. Transportation

10.1. Transportation by one of the CUSTOMER's contracted area forwarder

If a shipment is carried out by a local forwarder of the CUSTOMER, the local forwarder is responsible for the shipment from the time of collection until the shipment is delivered to the destination, including operation of any time slot management systems of the CUSTOMER and the punctuality of collection and delivery. This does not release the SUPPLIER from being responsible for the punctuality of the transport notification or booking, or the provision of proper packaging and load securing.

In case of any changes to the shipment volume or weight, or any potential delays due to a delayed transport notification or collection, the SUPPLIER must immediately communicate this directly to the Wilo Control Tower, provided the SUPPLIER's access has been activated.

Otherwise, the SUPPLIER must communicate directly with the local forwarder and, in the case of a potential delay, include the demand consultant/purchaser of the CUSTOMER in communications.

10.2. Shipment carried out by the SUPPLIER or its carrier

If a shipment is undertaken by a transport service provider of the SUPPLIER, the SUPPLIER is responsible for the transportation and all the associated aspects of it. This applies explicitly to:

- the communication between SUPPLIER and the contact partners of its transport service provider,
- the provision of information in the event of a potential delay or transport damage,
- compliance with all legal regulations related to the shipment,
- compliance with warning notices on the transport units throughout the course of the shipment,
- compliance with time slot management provisions at the receiving location.

This applies without restriction, even if Incoterms are used which make the CUSTOMER responsible for the partial or full acceptance of transport costs and risks (e.g. EXW, FCA, FOB...), but which are not notified to the CUSTOMER's area-forwarder.

10.3. Air freight/express shipments

By definition, air freight and express shipments are non- standard. They must always be agreed and coordinated by the SUPPLIER and the operative purchasing department, assisted if necessary by the CUSTOMER's strategic purchasing department.

As part of this coordination process, agreement must also be reached on the payment of costs.

If the SUPPLIER is responsible for the need to use air freight or express shipments due to delayed delivery, it must bear the costs for this in full, as outlined under the heading "Compensation of extra costs for non-standard shipment". In this case, the SUPPLIER may opt to commission its own carrier.

Similarly, the CUSTOMER shall accept responsibility for its own omissions or mistakes.

11. Acceptance of goods, unloading and receipt of goods

11.1. Acceptance times [7]

Acceptance times (opening hours) must be requested from the respective receiving plant and adhered to accordingly.

For SUPPLIERS in the Wilo transport management process, the opening hours of the delivery location are automatically reported to the CUSTOMER's local forwarders via the "Supplier Assignment Sheet".

11.2. Time slot management

The CUSTOMER uses a time slot management system for managing goods outward and goods inward operations at the following production plants or subsidiaries:

Location	System used
WILO external warehouse Dortmund Hellmann in Werne and Bergkamen	Cargoclix [7]

The time slot management system is used for both deliveries and collections.

This affects suppliers which make deliveries themselves, or the carriers commissioned by them. The arrangement applies regardless of the Incoterm. SUPPLIERS which commission their own carriers must inform and instruct them accordingly.

Details and user instructions can be obtained from the location to be delivered to or the associated plant's Logistics department.

11.3. Excluded from time slot management

Not affected are SUPPLIERS who are integrated in the Wilo transport management process and approve their transport orders via the Wilo Logistics Portal. In this case, the CUSTOMER's local forwarder assumes responsibility and carries out the transport and time slot booking.

In order to be integrated into the Wilo transport management process, the SUPPLIER can contact their partners in the CUSTOMER's Purchasing department and submit corresponding price offers with delivery condition FCA ex supplier delivery location. Overseas SUPPLIERS must offer FOB with international sea freight harbours as standard. The harbour to be used must be agreed in advance with Group Logistics [7].

However, if the SUPPLIER already delivers FCA or EXW with their own forwarder, the SUPPLIER can contact the CUSTOMER's Inbound Logistics department at Antonio.Rodrigues@wilo.com to check if it's possible to switch to the Wilo transport management process.

11.4. Unloading at a platform

RAMP UNLOADING generally takes place at the CUSTOMER locations as rear unloading. This applies equally to all European Wilo locations and external warehouse service providers. The only exceptions are:

- Hof works: Unloading at ground level (by forklift truck), ramp only for parcel deliveries,
- Wilo UK in Burton Upon Trent: unloading at ground level (by forklift truck).

In the following non-European plants, ramp unloading and unloading at ground level by forklift truck are equally possible:

- Wilo China in Beijing,
- Wilo India (Pune and Kolhapur),
- Wilo Pumps Korea in Busan,
- Wilo Russia (Noginsk),
- Wilo Turkey in Istanbul.

At locations with loading ramps, it must be possible to unload Euro pallets, one-way pallets and Euro pallet-sized GLTs lengthwise of the vehicle, without having to spend any additional time on relocating pallets, so that the vehicle does not have to drive over any pallet runners when unloading. Likewise, half-pallets ("Düsseldorfer pallets"), half-pallet-sized GLT **and quarter pallets if necessary** must be unloaded transversely to the vehicle length, so that the vehicle does not have to drive over any pallet runners when unloading.

For deliveries to the Dortmund plant and the associated Hellmann Werne and Bergkamen warehouses by express service providers, it must be ensured that the palletised goods can be removed by a forklift truck. If a sprinter is used for the delivery of more than one pallet, a tarpaulin sprinter must be used so that unloading with a forklift truck is guaranteed.

If additional expenses are incurred due to unauthorised cross-loading or similar, these will be charged to the SUPPLIER with a contractual penalty for each incorrectly loaded vehicle [7].

11.5. Unloading of third-party goods is prohibited

The CUSTOMER's employees and the employees of the logistics services providers used by the CUSTOMER must not unload third party goods due to insurance reasons. This also applies to temporary unloading if the third-party pallets are stacked on the CUSTOMER's pallets. Acceptance is refused in this case. Suppliers who make deliveries themselves must bear this in mind when loading or point it out to their carriers.

11.6. Booking the receipt of the goods at the CUSTOMER

Goods inwards processing by the CUSTOMER is date-specific. If incoming goods cannot be booked on the same day owing to very late delivery, delivery recording is back-dated so that the SUPPLIER is not disadvantaged in terms of the measurement of punctuality. If incoming goods cannot be booked in due to missing delivery document or deficiencies in the information provided in the delivery documents, the SUPPLIER must in its own interest handle the relevant queries as quickly as possible. For technical reasons, backdating to the previous month after the turn of a month is not possible.

12. Follow-up processes, exception processes, dealing with differences/anomalies

12.1. Supplier evaluation in regard to incoming goods posting

The DOT = Delivery on Time is determined as follows:

Deviation in Calendar Days	Above 7 days before date	7 to 3 days before	2 - 0 days before	1 day behind	2 to 5 days behind	More than 5 days behind
Continental	To be improved		On target	To be improved	insufficient	unacceptable
Overseas + Kanban	To be improved	On target		To be improved	insufficient	unacceptable

The number of order positions delivered on time is juxtaposed to the total number of order positions. The statistical delivery date will be considered in exceptional cases. The internal process to change the statistic delivery date is as follows:

Situation	Statistic delivery date
The CUSTOMER reschedules the delivery date and the supplier confirms the change.	Yes *
The SUPPLIER postpones the delivery date, but the original date corresponded to the contractually agreed delivery time or later.	No **
The SUPPLIER reschedules the delivery date by the difference to the contractually agreed delivery time because the original preferred delivery date was earlier than the contractually agreed date.	Yes * provided the supplier notifies the purchaser accordingly!

* The expected delivery date must always be changed to the expected date of arrival. The statistic delivery date will change automatically, unless it has previously been rescheduled manually to a different date.

** The operational purchaser must change the statistic delivery date back to the original delivery date.

12.2. Supplier rating / supplier evaluation

The CUSTOMER will measure the timeliness and reliability of the SUPPLIER's data input into the CUSTOMER's IT systems, and it will incorporate the results into the supplier rating.

If the requirements of a logistics contract, these delivery guidelines, packaging instructions, the packaging agreement **or specification** are not complied with, the SUPPLIER shall receive a logistics complaint requesting corrective action. All complaints are included in the evaluation of the SUPPLIER by the CUSTOMER **and may lead to the CUSTOMER claiming contractual penalties or damages [7].**

12.3. Lump sum penalties for deviations





In addition to negligent infringements of obligations described in the logistics agreement leading to a rejection of acceptance or the obligatory assumption of damage compensation (added costs) for urgent and special transports, sorting costs, costs for new purchases and scrapping costs in the event of transport damage, fixed-rate penalty charges may apply in the event that the delivery guideline is not complied with. From 2019, these shall initially be applied in Dortmund. **The amount of the contractual penalties is calculated fairly by Wilo on the basis of the average additional expenses incurred [7].**

Version history

Rev.	Creation/amendment	by (name)	Date (dd/mm/yyyy)
0.	Creation	Antonio Rodrigues	20/11/2015
1.	KEP (Parcels) and EDI waybill	Antonio Rodrigues	05/01/2016
2.	VDA-4902 Labelling	Antonio Rodrigues	28/01/2016
3.	Modifications	Antonio Rodrigues	19/07/2016
4.	Modifications	Antonio Rodrigues	31/08/2017
5.	Modifications, new Plant info.	Antonio Rodrigues	11/01/2019
6.	VDA variants, Wilo logistics Portal.	Antonio Rodrigues	18/02/2021
7.	Changes to processes, VDA standards, locations and the Wilo Logistics Portal.	Antonio Rodrigues	15/01/2024

13. Appendix

13.1. Example of VDA 4994 GLT Master Label for homogenous loading unit

SHIP FROM LIEFERANT AG WERK BERLIN BERLIN DE-10117 ID: 887766554		SHIP TO MODERN CAR INC. LONDON PLANT 72 GREAT PETER STREET UK SW1P 2BN LONDON <small>PLANT / UNLOADING POINT / CUSTOMER INTERNAL DESTINATION</small> 013 / RAMP 15 / WH4		S 
COUNTRY OF ORIGIN: DE				
DELIVERY NOTE NUMBER 12345678	CUSTOMER SPECIFIC ROUTING INFORMATION ROUTE 66 LINE15		ETA 2016-01-15/13:30	
SUPPLIER NUMBER 987654321			QUANTITY (PC) 1000	NET KG 780 GROSS KG 850
CUSTOMER PART NUMBER LEFT MOUNT ALUMINIUM GFS-123-554-765 				
PACKAGE-ID (1J) UN 987654321 000123457			PACKAGING TYPE KLT4738	PRODUCTION DATE P 2016-01-14
			BATCH NUMBER CH1234	
			ENGINEERING CHANGE / HARDWARE REV. / SOFTWARE REV. 2015-11-01	
SUPPLIER AREA 		SUPPLIER DATA LINE 1 SUPPLIER DATA LINE 2 SUPPLIER DATA LINE 3		CUSTOMER DATA LINE 1 CUSTOMER DATA LINE 2 CUSTOMER DATA LINE 3 CUSTOMER DATA LINE 4 CUSTOMER DATA LINE 5

(Original is 210x148mm)

13.2. Example of VDA 4994 GLT Mixed Label

SHIP FROM LIEFERANT AG WERK BERLIN BERLIN DE-10117 ID: 887766554		SHIP TO MODERN CAR INC. LONDON PLANT 72 GREAT PETER STREET UK SW1P 2BN LONDON <small>PLANT / UNLOADING POINT / CUSTOMER INTERNAL DESTINATION</small> 013 / RAMP 15 / WH4		MIX 
COUNTRY OF ORIGIN:				
DELIVERY NOTE NUMBER 12345678			ETA 2016-01-15/13:30	
SUPPLIER NUMBER 987654321			NET KG 780 GROSS KG 850	
CUSTOMER PART NUMBER				
PACKAGE-ID (5J) UN 987654321 000123458			PACKAGING TYPE GLT4711	SHIPMENT DATE S 2016-01-14
			BATCH NUMBER	
			NO OF INN PKG 40	
SUPPLIER AREA 		SUPPLIER DATA LINE 1 SUPPLIER DATA LINE 2 SUPPLIER DATA LINE 3		CUSTOMER DATA LINE 1 CUSTOMER DATA LINE 2 CUSTOMER DATA LINE 3 CUSTOMER DATA LINE 4 CUSTOMER DATA LINE 5

(Original is 210x148mm)

13.3. Example of VDA 4994 Single Label in format for a Small Load Carrier

SHIP FROM LIEFERANT AG WERK BERLIN BERLIN DE-10117 ID: 887766554 COUNTRY OF ORIGIN DE DELIVERY NOTE NUMBER 12345678 SUPPLIER NUMBER 987654321 CUSTOMER PART NUMBER LEFT MOUNT ALUMINIUM	SHIP TO MODERN CAR INC. LONDON PLANT UK SW1P 2BN LONDON PLANT / UNLOADING POINT / STOCK LOCATION 013 / RAMP 15 / WH4 CUSTOMER SPECIFIC ROUTING INFORMATION ROUTE 66 LINE15	S		PACKAGING TYPE KLT4738 BATCH NUMBER CH1234 PART- / HARDW- / SOFTW.-REVISION 2015-11-01	SHIP / EXPIRY / PROD.- DATE P 2016-01-14
ETA 2016-01-15/13:30 QUANTITY PC 1000 GROSS KG 850 NET KG 780				CUSTOMER DATA LINE 1 CUSTOMER DATA LINE 2 CUSTOMER DATA LINE 3 CUSTOMER DATA LINE 4 CUSTOMER DATA LINE 5	
GFS-123-554-765				SUPPLIER DATA LINE 1 SUPPLIER DATA LINE 2 SUPPLIER DATA LINE 3	
PACKAGE-ID (1J) UN 987654321 000123457					

(Original is 210x75mm alternatively quarter letter size)

13.4. Example of VDA 4994 Single Label in SLC2 tray format

Part Number: GFS-123-554-888	QTY (PC): 1000		Supplier: Great Gearboxes GMBH
			Supplier No.: 12345678901234567
Package ID: 1J UN 987654321 000123457			Batch: CH1234
			Expiry Date: 2023-01-14

(Original is 210x54mm)

13.5. Example of VDA 4994 Single Label in US 6x4"

SHIP FROM LIEFERANT AG WERK BERLIN BERLIN DE-10117 ID: 887766554 C. OF ORIGIN: DE DELIVERY NOTE NUMBER 12345678 SUPPLIER NUMBER 987654321 CUSTOMER PART NUMBER LEFT MOUNT ALUMINIUM	SHIP TO MODERN CAR INC. 72 GREAT PETER STREET UK SW1P 2BN LONDON PLANT / UNLOADING POINT / CUSTOMER INTERNAL DESTINATION 013/RAMP 15/WH4 CUSTOMER SPECIFIC ROUTING INFORMATION ROUTE 66 LINE15	S		PACKAGING TYPE KLT4738 BATCH NUMBER CH1234 ENGINEERING / HARDWARE REV. / SOFTWARE REV. 2015-11-01	PRODUCTION DATE P 2016-01-14
ETA 2016-01-15/13:30 QUANTITY (PC) 1000 GROSS KG 850 NET KG 780				CUSTOMER DATA LINE 1 CUSTOMER DATA LINE 2 CUSTOMER DATA LINE 3 CUSTOMER DATA LINE 4 CUSTOMER DATA LINE 5	
GFS-123-554-765				SUPPLIER DATA LINE 1 SUPPLIER DATA LINE 2 SUPPLIER DATA LINE 3	
PACKAGE-ID (1J) UN 987654321 000123457					

13.6. Example of VDA 4902 GLT label (Original is 210x150mm)

(1) Ship-to-party WILO SE, Werk Dortmund DE-44263 DORTMUND		(2) Unloading point – storage location – usage key Dock 2 – Roko		
(3) Delivery note number (N) 2581752 		(4) Supplier address (name, plant, zip code, city) EXAMPLESUPPLIER SPA IT-28010 FONTANETO		
		(5) Net weight 800	(6) Gross weight 872	(7) Number of packages 3
(8) Customer reference number (P) 765-HGD89-1234567 				
(9) Max. pp (Q) 140 		(10) Description of delivery, service ELECTRICAL CONTROLLER		
		(11) Supplier reference number (30S) 00123B1070 		
(12) Supplier number (V) 123456789 		(13) Shipping date D 08.04.2016	(14) Engineering change status VERSION 5.7	
(15) Package no. (M) 2581752 01 		(16) Batch number (H) C12345678 		

(17) Material Tag VDA 4902, Version 4

13.7. Example of VDA 4902 KLT label (Original is 210x75mm)

(1) Ship-to-party WILO SE, Werk Dortmund 44666 Dortmund		(2) Unloading point – storage location – usage key Halle 1 Tor 2 - Roko	(3) Delivery note number (N) 2581752
(8) Customer reference number (P) 765-HGD89-1234567 			
(9) Max. pp (Q) 140 ST 		(10) Description of delivery, service ELEKTR. STEURERGERAET	
		(11) Supplier reference number (30S) 00123B1070 	
(12) Supplier number (V) 123456789 		(13) Shipping date 160407	(14) Engineering change status VERSION 5.7
(15) Package no. (M) 2581752 01 		(16) Batch number (H) C12345678 	

13.8. Example of VDA 4902 Master-Label for mixed pallets (Original is 210x150mm)

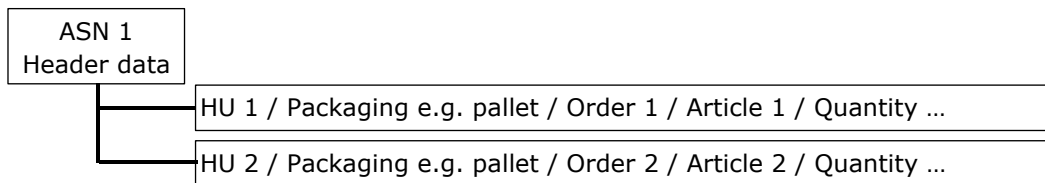
(1) Ship-to-party WILO SE, Werk Dortmund DE-44263 DORTMUND		(2) Unloading point – storage location – usage key Dock 2 – Rbko		
(3) Delivery note number (N) 2581752 		(4) Supplier address (name, plant, zip code, city) EXAMPLESUPPLIER SPA IT-28010 FONTANETO		
(8) Customer reference number (P) MIX 		(5) Net weight 800	(6) Gross weight 872	(7) Number of packages 3
(9) Max. no. (Q)		(10) Description of delivery, service MIX		
(12) Supplier number (V) 123456789 		(11) Supplier reference number (30S) MIX 		
(15) Package no. (M) HU00002117 		(13) Shipping date D 08.04.2016	(14) Engineering change status	
(17) Material Tag VDA 4902, Version 4		(16) Batch number (H)		

13.9. Example of EDI VDA 4912 waybill

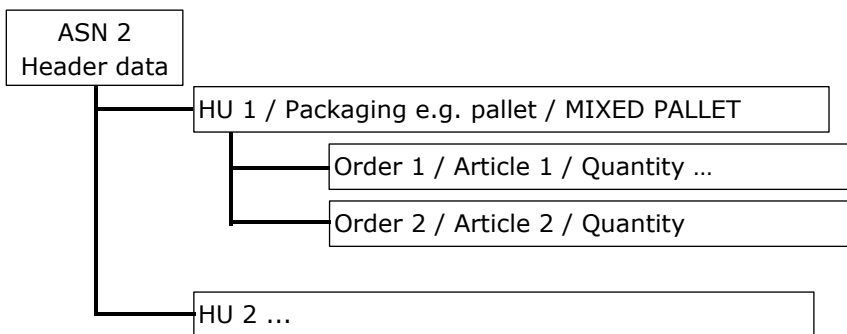
EDI - WAYBILL		SHIPMENT NO.: 1234567		11/11/2015-08:00	
SUPPLIER -PLANT: 0401 -NUMBER: 330091		RECIPIENT		-PLANT: 15 UNLOADING SITE: BLDG20 -NUMBER: 543215 STORAGE LOCATION: WE02	
Sample company GmbH Sample street 1 123456 Sample town		WILO SE Nortkirchenstrasse 100 44263 Dortmund		PLACE OF USE: SHIPPING METHOD: LORRY CARRIER: -NUMBER: 665512 GR. SHIPMENT WEIGHT: 13	
DN NO.	CUSTOMER REF. NO.	QUANTITY	Qty Unit	V/G DESIGNATION OF THE DELIVERY	ORDER NO.
-DATE	SUPPLIER REF. NO.	REVISION STATUS		ADDITIONAL SUPPLIER INFO	
-POS	PACKAGE QUANTITY	-CUSTOMER NUMBER		FILL QUANTITY -SUPPLIER NUMBER	CONSIGNMENT
00020002 07/10/2014	CUST. TYPE NO. 012000011	200	ITEM	Stratos Pico 25/1-6-4132453 circulation pump	01920
001	VP: 0000000001	KD PKIMNR	X	00000000001 LF PKMN	
00020002 07/10/2014	CUST. TYPE NO. 012000050	200	ITEM	Domestic hot water circulation pump Star-Z Nova A	01920
002	VP: 0000000001	KD PKIMNR	X	00000000001 LF PKMN	
00020003 07/10/2014	CUST. TYPE NO. 112000003	100	ITEM	Yonos Pico 25/1-6 1804164003 heating pump	01921
001	VP: 0000000001	KD PKMNR	X	00000000001 LF PKMN	
	VP: 0000000001	KD PKMNR	X	00000000001 LF PKMN	
***** END *****					

13.10. Sample packaging structures specified in the delivery advice

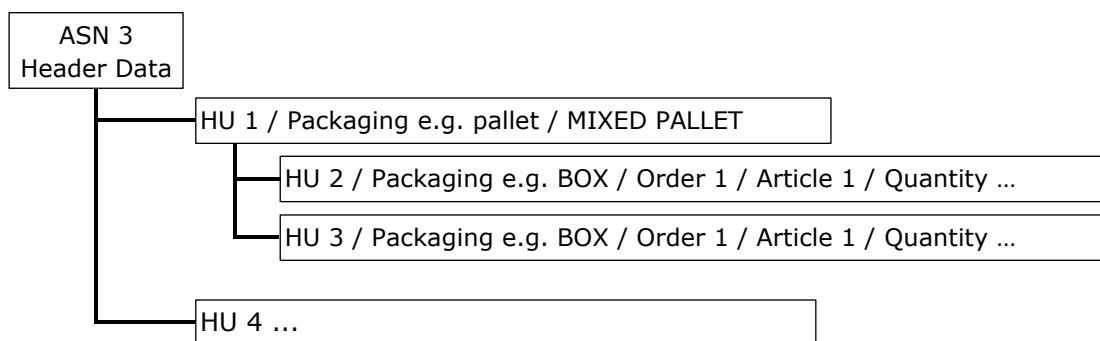
13.10.1. One single level, 2 pallets, one article on each pallet:



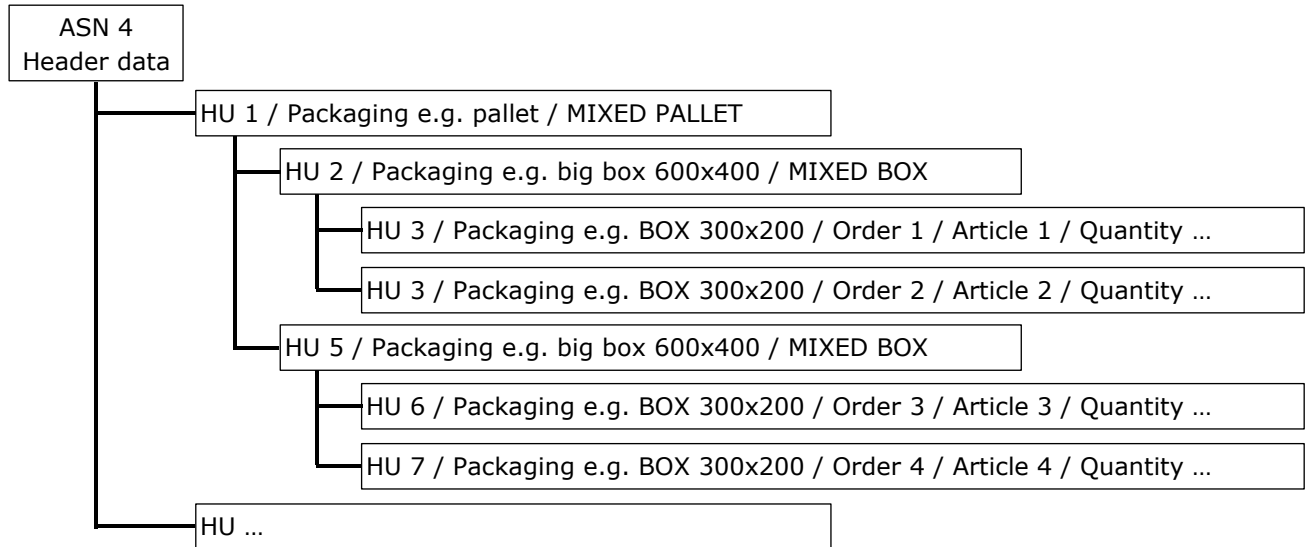
13.10.2. Two levels, Mixed-pallet, multiple articles on the pallet w/o own packaging:



13.10.3. Two levels, Mixed pallet, multiple articles on the pallet with own packaging:



13.10.4. Three levels, Mixed pallet, Mixed boxes on it, each box 2 items with own packaging in a smaller box (2 small boxes in each bigger box):



This example is simplified in the way that only one pallet is shown with details. It is shown 1 pallet which is carrying 2 bigger boxes. Each of them are carrying again 2 smaller boxes which finally contain the parts without own packaging.