DELIVERY INSTRUCTIONS for deliveries to locations of the WILO Group

Group Purchasing and Supply Chain Management / Group Supply Chain Governance
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General document information

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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 … .

Contents

1. Validity, document structure, definition of terms

1.1. Validity

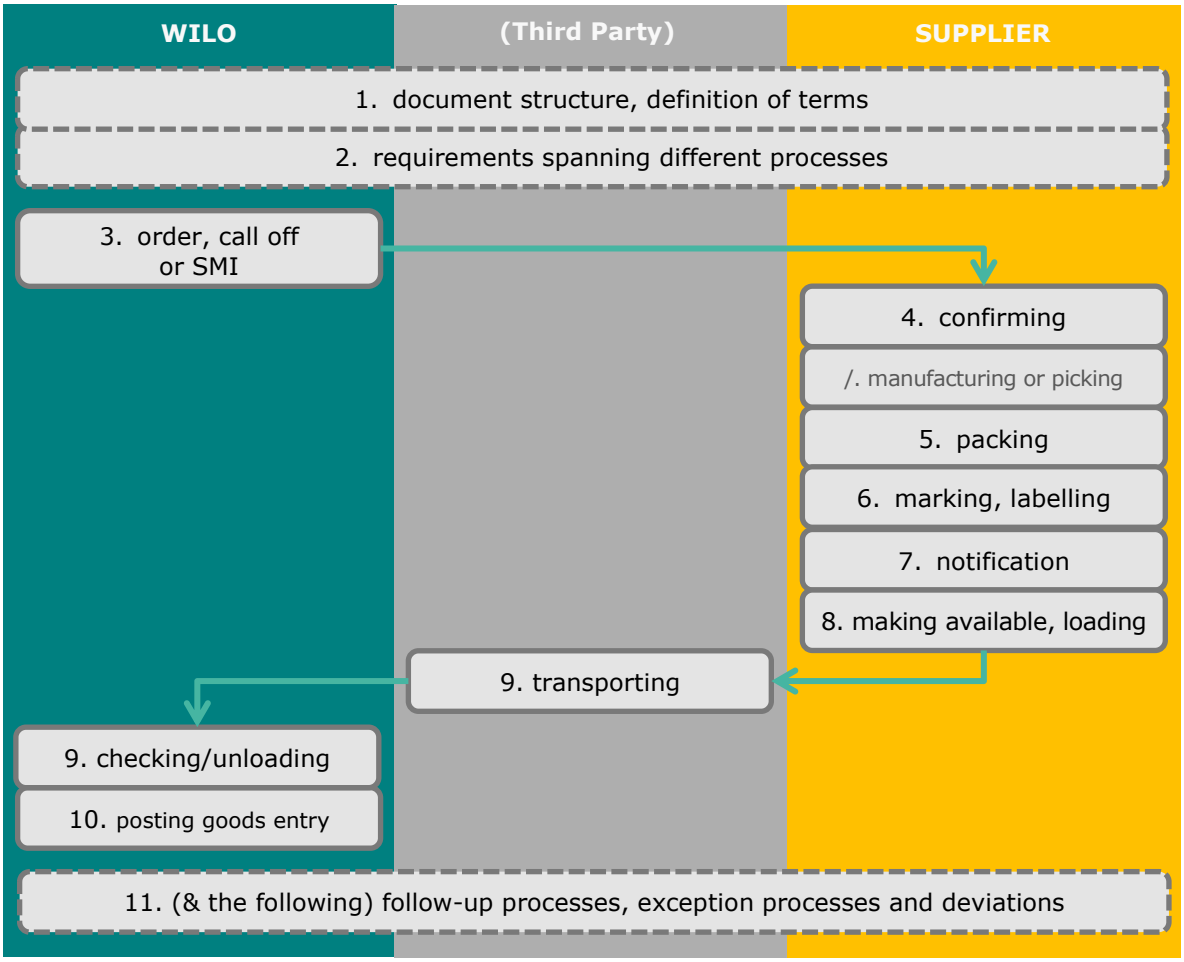
The requirements in these requirements specifications apply to all supplies and flows of information between SUPPLIERS and WILO Group locations and its subsidiaries, hereinafter referred to as the CUSTOMER. They apply to all the different purchasing processes (ordering, delivery scheduling, Kanban, SMI etc.) and locations (production, logistics or sales locations).

Any deviations from them must be agreed in each individual case with the logistics department at the receiving location via the purchasing department. For example, individual packaging instructions that override this document may be issued at the goods category level, or even in relation to individual article numbers.

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. Document structure

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



1.3. List of abbreviations, definitions and definition of terms

1.3.1. List of abbreviations

GLT Großladungsträger (large load carrier / container)
KLT Kleinladungsträger (small load carrier / container)
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.
SNC Supply Network Collaboration is a WEB-based SAP product for the electronic exchanging of data and documents in connection with procurement processes.

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 that 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.

2. Requirements spanning different processes

2.1. Duty to provide information

The SUPPLIER is subject to a duty to provide information. A written declaration of consent must be obtained for any changes which may influence the logistics processes, quality or costs of the respective receiving plant.

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. This is why 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 emergencies, particularly if the timely or correct delivery to the CUSTOMER by the SUPPLIER is jeopardised, the SUPPLIER must also ensure that one of the contact persons named by the SUPPLIER can be contacted at all times (i.e. including outside of normal business hours as well as at weekends or on public holidays).

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. [4]

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 the result of an event (such as a lorry accident, a loss of production or loss or damage in transit etc.), the SUPPLIER must immediately trigger a delivery from its safety stocks. Following consultation with the CUSTOMER's responsible supply scheduler, 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.

2.3. Dangerous goods [4]

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. 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.

Materials governed by the Ordinance on Dangerous Goods Transported by Sea Freight, the "IMDG code" (International Marine Dangerous Goods Code), or the "IATA RAR code" (International Air Transport Association - Restricted Articles Regulations) must be packaged in accordance with the respective regulations. Corrugated cardboard/boxes used for packaging must be made from waterproof coated materials.

2.4. Paperless communication

2.4.1. Communication channels: EDI, WEB EDI, SNC

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	Wilo Purchasing Collaboration portal	Tendering, quotation management. This portal also provides access to SNC
WEB EDI	WEB EDI portal (either Seeburger or SAP SNC)	Orders and order changes and confirmations as well as delivery schedule processes. For all these: delivery notification
EDI	Electronic Data Interchange	Orders and order changes and confirmations as well as delivery schedule processes. For all these: delivery notification

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.

If the SUPPLIER implements special processes (SMI or Kanban) with the CUSTOMER in addition to the standard processes, the Seeburger LSP system will be used as a WEB EDI platform [4]. In addition to the special processes, this then also provides all the conventional order processes (order process and delivery schedule process, changes, confirmations and delivery notifications), and the SUPPLIER therefore does not have to use two different portals for the CUSTOMER for the same purpose.

The CUSTOMER is helping Seeburger develop its special processes portal, so the expectation is that a SUPPLIER that initially works with the SAP SNC portal due to the special processes that it undertakes will have to switch to the Seeburger portal at the start of 2018.

2.4.2. Communication via fax, or e-mail with PDF attachment

These communication pathways cause significant additional expenditure and, given normal supply chain processes, are viewed as an interim solution by the CUSTOMER. The rules described in the respective chapters apply to exceptional cases (i.e. delivery delay and breakdowns) [4] SUPPLIERS may request the strategic purchasers to allow them transitional periods for making the switchover. However, over the long term the CUSTOMER is not prepared to incur additional workload due to inefficient communication processes.

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 [4]. 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 employee responsible for supply (orderer) must be informed without delay.

3.4. Ordering, normal ordering, order allocations

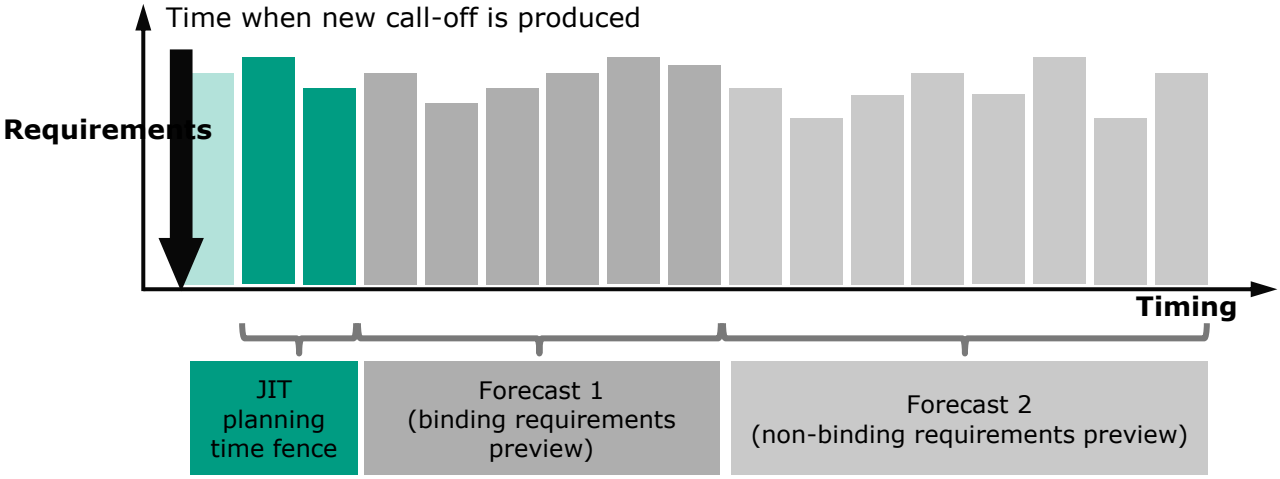
An order may relate to a framework agreement in the form of an "order call-off", or it may be a "one-off order" without an associated overarching framework agreement. The requested delivery date for an order call-off generally depends on the delivery periods that are promised in the framework agreement.

Written confirmation of the placing of the order is never required.

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").

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.

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 or delivery schedule update which the SUPPLIER receives via the WEB EDI portal. If it wishes, the SUPPLIER can set its alert profile so that it receives an e-mail alert regarding the new Kanban order. A Kanban order does not need to be confirmed, since the delivery period is specified in the individual contract.

The release by the SUPPLIER of the associated delivery notification automatically books the corresponding Kanban container to "In Transit" status. Once the receipt of the goods by the CUSTOMER has been booked, the status automatically reverts to "Full".

For Kanban refilling processes, which generally take longer than 5 working days, the purchaser can additionally specify in the individual contract that refilling should be marked and displayed as "In Progress". Otherwise the SUPPLIER is free to choose whether this process step is to be carried out as a means of increasing internal transparency.

3.6.1. No automatic preview with Kanban

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 undertakes to ensure that it can adhere to its promised response times and delivery periods by regularly checking new Kanban notifications and orders on the WEB EDI portal.

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.

If not otherwise agreed in a specific contract, SMI also entails the SUPPLIER providing stock in the form of consignment stock. In this case, transfer of ownership to the CUSTOMER does not take place when the replenishment delivery arrives, but only when agreed minimum sub-quantities are called off from the corresponding consignment stock into production stock.

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	Currently: Optional *
Delivery schedule	NO
SMI delivery (basis is delivery schedule)	NO

* Orders for services do not require a notification of delivery. 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. 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. Earlier confirmation is possible, and explicitly desired, and it may be specified in the individual contract. 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.

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 [4]. 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 one of the SUPPLIER's packaging units is changed, this must be communicated to and agreed by the CUSTOMER's procurement operative.

4.4.2. Differing delivery dates

If in a specific case confirmation cannot be given for the requested delivery day, the SUPPLIER's scheduler must notify this within the order confirmation. The Supplier’s responsible scheduler must, independently of the EDI / WEB-EDI [4] order confirmation, promptly notify any delay to the CUSTOMER’s operative purchaser, as the CUSTOMER’s production schedule may be affected.

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 orderer prior to confirmation. The CUSTOMER's orderer must then make any necessary corrections to the order, so that the SUPPLIER only processes order confirmations which are valid in pricing terms.

This also avoids the CUSTOMER subsequently having to undertake extra work in relation to the checking of invoices.

4.5. Deviations within delivery schedule [4]

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 rules derived from it

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.

5.2. Packaging requirements if there are no packaging instructions

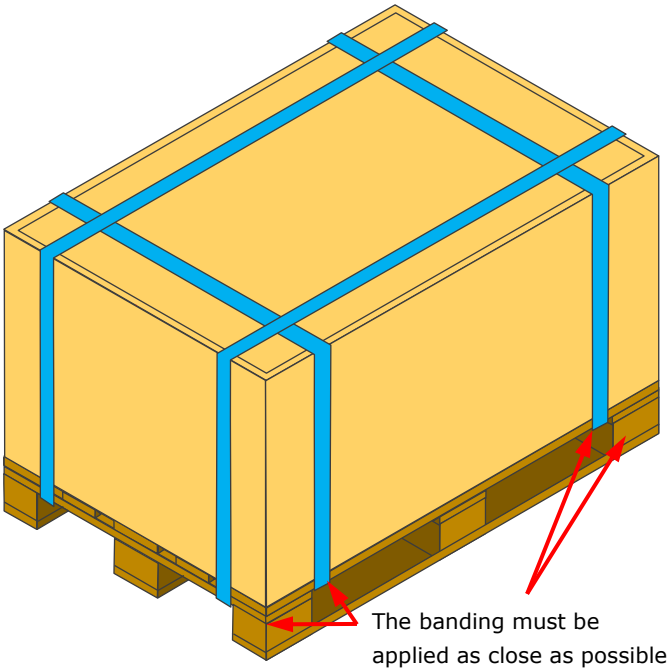
In accordance with the guidelines described below, if a packaging agreement has not been agreed between the SUPPLIER and the CUSTOMER the SUPPLIER is solely responsible for ensuring that packaging, preservation, strapping and other internal load securing measures are suitable for transport and handling so as to guarantee damage-free delivery to the place of use, and it also bears sole responsibility for ensuring that full account is taken of all logistical considerations within the production process and series production.

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

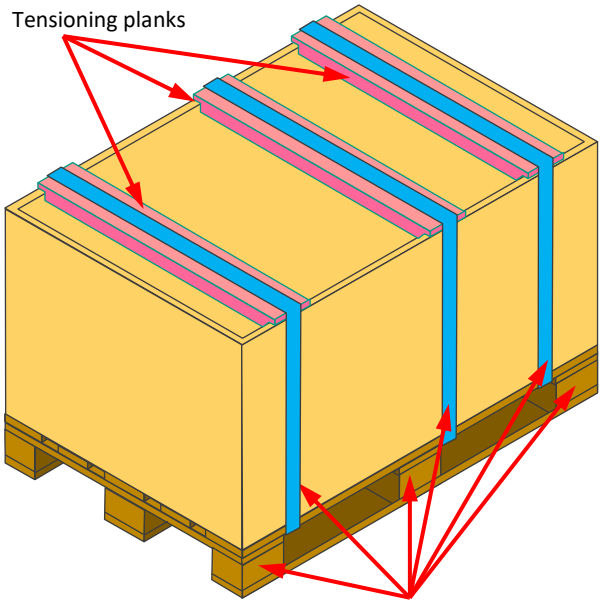
- The load container and transport packaging should guarantee safe and resource-efficient handling during loading, shipment of the goods and unloading, and during transportation and extraction of sub-quantities at the CUSTOMER's premises.
- Reusable containers should be preferred in view of the economic efficiency of transportation and the exchange process compared with single-use containers.
- DB flat euro pallets (UIC 435-2) and DB Euro mesh box pallets (UIC 435-3) must be exchanged with the responsible carrier in the container exchange countries.
- 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.
- 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) [4]. 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. It is forbidden to over-tighten bands to the extent that they deform the outer packaging.
- 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. [4]
- 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 [4].
- Such transport units must be stabilised by tensioning planks or framed covers if their structure includes folding stacking frames [4]. 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 banding must be applied as close as possible to the stringers.



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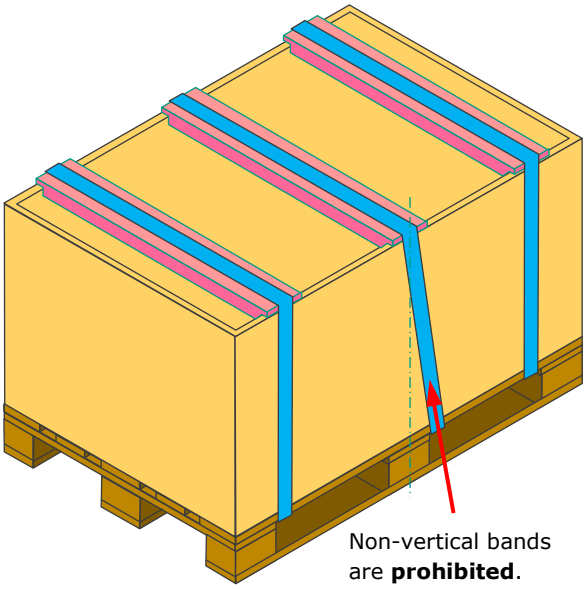
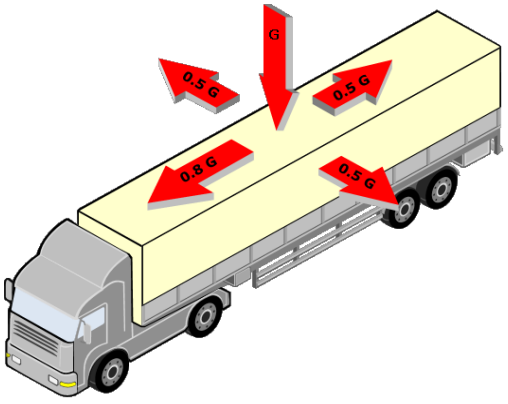


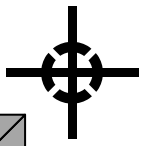
Non-vertical bands are **prohibited**.

- The SUPPLIER must ensure that its one-way pallets and its frames or pallet boxes have the required load-bearing capacity, and if required it must prove this to the CUSTOMER. 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).

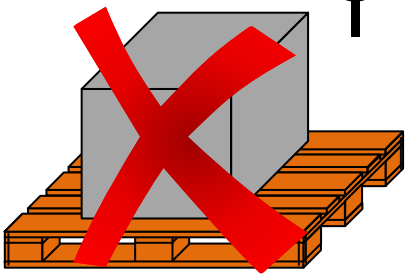


- The ground clearance of pallets and other transport aids must be at least 100 mm according to DIN 15145 and the free entry width must be at least 600 mm. Other loading aids are only to be used with the approval of the local logistic management of the recipient.

- 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. [4]
- 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). [4]



- 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 [4].



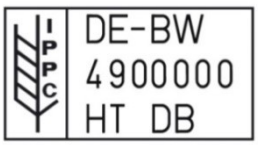
- Goods are not permitted to protrude over the edges of the transport pallet [4]. If the external dimensions of the transported article necessitate this, a correspondingly larger pallet should be used after obtaining the agreement of the receiving plant's logistics department. The maximum dimensions (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 [4].

5.2.1. Requirements for consignments of parcels

- Small consignments (consignments of parcels up to a maximum of 31 kg) must not be palletised.
- They must remain unpalletised so as to allow collection by a parcels services 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.

5.2.2. Additional requirements for shipments from non-EU countries

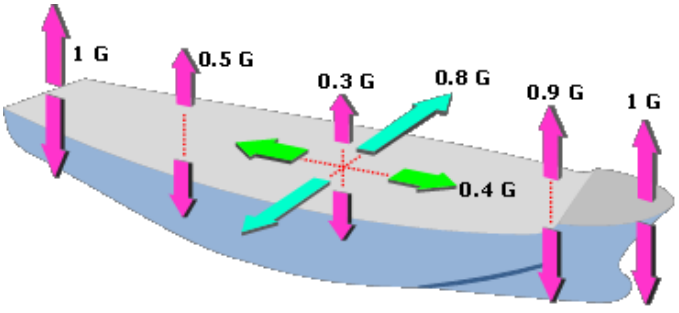
- Irrespective of this guideline, the packaging of transports crossing an external EU border must comply with the legal requirements of the destination country and all transit countries crossed. [4]



- 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). [4]
- For plywood or chipboard materials for which an IPPC licence is not required, it is essential to enclose a "NON-Wood Declaration" with the delivery documents.

5.2.3. 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 half or quarter pallet must be used as appropriate.
- 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).

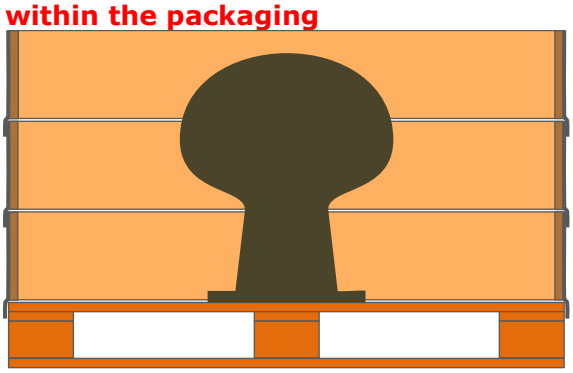


- Cardboard packaging for sea freight must be designed for a 7.5-fold upset pressure, analogous to a properly dimensioned box for land transport. [4]

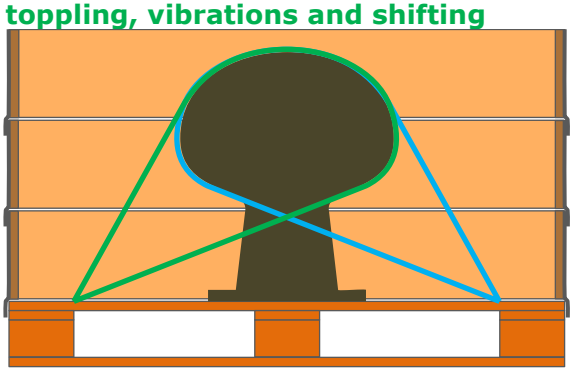
5.3. Requirements relating to the packaging process

- 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.

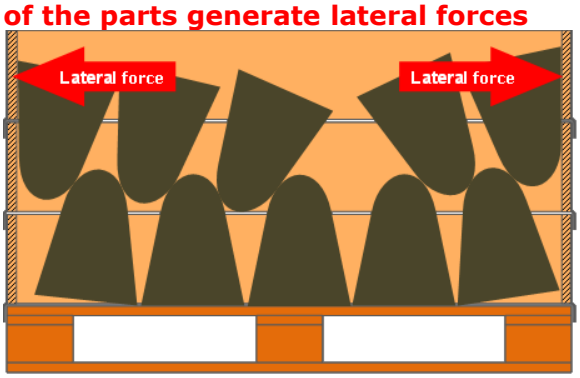
NOT OK: Goods can topple over within the packaging



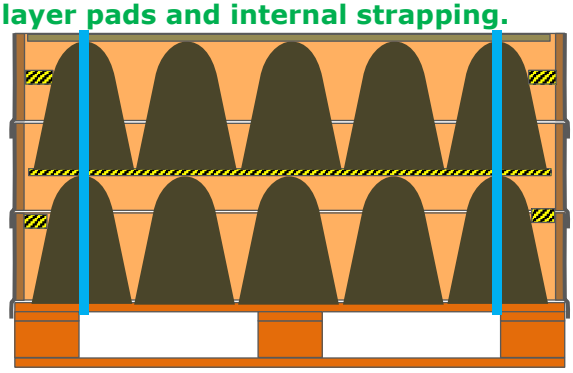
OK: internal strapping prevents toppling, vibrations and shifting



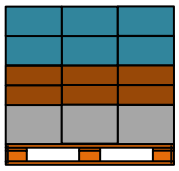
NOT OK: Type of packaging and shape of the parts generate lateral forces



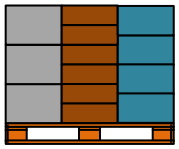
OK: Lateral forces are absorbed by layer pads and internal strapping.



- 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.

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 otherwise agreed in packaging agreements, and if the weight and dimensions of the material to be delivered permit it, the maximum weight, including packaging material and transport equipment, per transport unit for each receiving plant is as follows:

	Maximum weight for each delivery location			
Location	Euro pallet 1,200 x 800 mm	Export pallet 1,140 x 760 mm	Mesh box pallet	maximum standard height
Dortmund, Germany	950 kg	950 kg	950 kg	970 mm
Unna, Germany	950 kg	950 kg	950 kg	970 mm
Oschersleben, Germany	1,000 kg	1,000 kg	1,000 kg	1,000 mm
Hof, Germany	1,000 kg	1,000 kg	1,000 kg	970 mm
Minden, Germany	1,000 kg	1,000 kg	1,000 kg	-
Aubigny, France	1,000 kg	1,000 kg	1,000 kg	-
Laval, France	750 kg	750 kg	750 kg	890 mm [4]
Laval-Louverné	750 kg	750 kg	750 kg	890 mm [4]

For one-way pallet / single-use packaging, the same upper limits apply.

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).

  In the case of the loading of general cargo by carriers, the supplier must give the carriers written instructions to this effect.
- For articles prone to corrosion, the goods must initially be packed in a VCI pouch. [4]
- 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. [4]

6. Marking and package labelling

6.1. Marking of the articles themselves

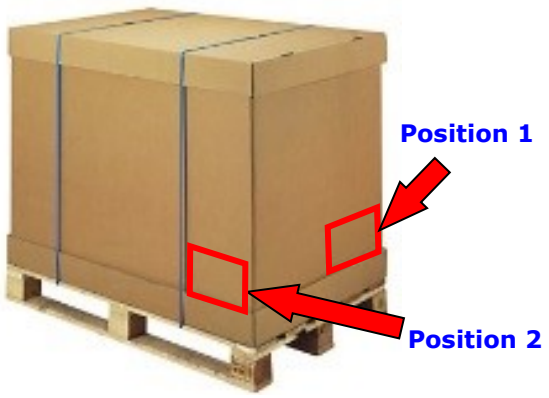
When they are delivered, both the (re)packaging and the products themselves must be marked according to the agreements entered into with the CUSTOMER and the other applicable packaging instructions.

6.2. Marking by the CUSTOMER

GLT transport units must be marked with two VDA 4902 GLT package markings denoting their contents which are affixed to two sides of the unit. In the case of parcel deliveries, one label per box is sufficient (compare illustration in 6.3).

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.

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

Either VDA label 4902 GLT or 4902 KLT may be used for the delivery of small load containers (KLTs) or cardboard boxes, or for the marking of small load container batches. It must be affixed on the short side (end) of the container. If the cardboard box or KLT is not tall enough for an unfolded GLT (large load container) label to be used on it, the KLT (small load container) label must be used.

If a SUPPLIER-specific label based on another standard is accepted for a transitional period in accordance with the packaging agreement, additional labels must be added for any missing information according to the VDA 4902 standard (e.g. address labels).

The following minimum information (without VDA 4902 stickers) is required: Delivery note number, CUSTOMER article number, quantity, package number, CUSTOMER order number and order position, each in plain writing and additionally as barcode (code 128 or code 39) [4]. 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 4902 label is used. Other exceptions must be agreed with the logistics department of the receiving plant.

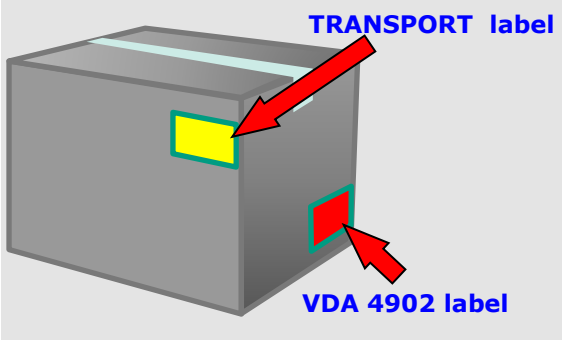
If the CUSTOMER demands the batch number, this must be shown on the label enclosed with the delivery in the field provided for this purpose. The same applies in respect of the version number / revision status of the drawing.

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 incl. a barcode. The master label must be affixed to two adjoining sides of the pallet.

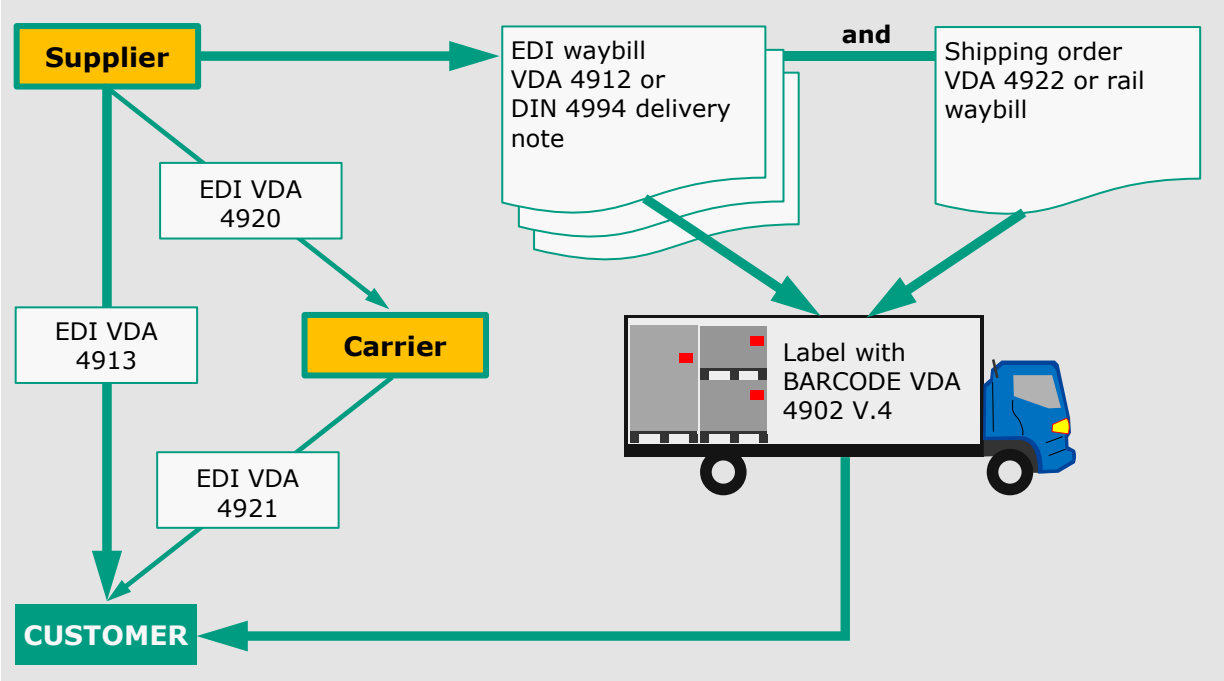
6.3. Transport labels

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. Notification of the delivery and/or the shipment

7.1. Interaction of VDA notifications and delivery process documents



7.2. Notification of the shipment

For all Incoterms which make the CUSTOMER responsible for the partial or full acceptance of transport costs and risks (e.g. EXW, FCA, FOB…), the SUPPLIER must send a notification of shipment which is independent of the delivery notification. This must be sent to the regional contract carrier specified by the CUSTOMER for the SUPPLIER location and the respective shipment size.

SUPPLIER is solely responsible for the shipment	SUPPLIER and CUSTOMER share responsibility	CUSTOMER solely responsible for the shipment
No notification of shipment required	Notification of shipment required (see exception)	

This depends on the individual shipment, not the general Incoterm agreement. If the shipment takes place as set out under the heading "Compensation of extra costs for non-standard shipment", the SUPPLIER is solely responsible for the shipment even if the generally agreed Incoterms state otherwise.

Exception

With the explicit approval of the CUSTOMER's Group Logistics department, the SUPPLIER can use its internal transportation network or its own shipping partner. In this case, the CUSTOMER or its regional contract carrier does not require a notification of shipment. In this case, the shipment must be charged for via an invoice or an invoice item of the SUPPLIER. Third party invoices are not permitted.

7.2.1. Contents of the notification of shipment

The notification of shipment contains the SHIPMENT data and it consequently represents the total of all the delivery notifications and delivery notes which are sent to the same recipient on any one day and which are to be loaded on the same collecting vehicle. It must match the EDI VDA 4920 shipping order.

The notification of transport to the carrier must contain the following data:

- Collection date and time

- Collection location including precise loading point
- Receiving plant including precise unloading point
- Number, stackability and type of load containers/packaging
- Overall weight of the shipment and loading metres or cubic metres of the shipment
- Dangerous goods classification, if applicable
- Delivery date (target date for arrival at the corresponding receiving plant)

Per handling unit or transport unit, the following must be entered:

- the type of individual transport unit or transport packaging,
- the contents of the individual transport unit which comprises one or more article numbers and the corresponding quantities and order numbers / item numbers,
- the size, gross weight and net weight of the individual transport units: the width and length are generally already determined and predefined by the type of pallet that is used. If the dimensions are different, they must be overwritten accordingly with the actual dimensions.

7.2.2. Differentiation according to size of shipment

The SUPPLIER must notify its shipment in a timely and factually correct manner according to the size of the shipment. As a rule, it must differentiate between general cargo, partial and complete loads, and consignments of parcels. A consignment of parcels (within Germany) must consist of a maximum of 4 parcels of 30 kg, and it must NOT be palletised. The limit for international sendings is one 30 kg parcel. Larger shipments must be palletised and reported to the regional contract carrier specified in the routing order.

The commissioning of transport service providers other than the one specified in the routing order is only accepted following release by the CUSTOMER's respective plant logistics department. If the SUPPLIER independently commissions another transport service provider, this will always be at its own expense.

7.2.3. 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. As well as being shown in the individual routing order, the transit periods are shown in the document entitled:

"Wilo_Inbound_transit_time_tables_to_German_locations".

National (delivery location in Germany following German receiving location) applies to general cargo shipments:

Booking lead time	← Transit time = 2 days →		
Day 0	**Day 1**	**Day 2**	**Day 3**
Notification (booking) **E.g. max. 3:00 p.m.**	Collection by WILO's area-forwarder	Transit time	Receipt of goods deadline

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.

A public holiday within the planned shipment period or on the planned arrival date must accordingly be allowed for by the SUPPLIER through earlier notification.

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.

Sundays and public holidays or state-specific holiday-related and/or regional lorry bans, including within transit regions, may delay the shipment timings. If information is required, contact the carrier in question directly for details of the transit options/times.

7.2.4. Routing order or notification of shipment

The specifying of the regional contract carrier, the Internet or e-mail addresses required for shipment notification, and the framework conditions is generally done in an e-mailed set of instructions. This so-called routing order also describes the registration process for new shipments, and it specifies any links to and login name and initial password for carrier portals that have to be used. Depending on the receiving plant of the CUSTOMER, different notifications of shipment may be applicable.

7.2.5. Online freight registration portals

In future, the CUSTOMER or its contract carrier will set up online portals for registering shipments of goods in order to reduce communications workload. The SUPPLIER must ensure that its employees who are responsible for shipping the goods can use these tools.

7.3. Notification of delivery

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”).

7.3.1. 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	Currently: Optional *
* in future (launch date to be announced): For services = no shipment For goods = physical shipment	 Optional **Obligatory**
Delivery schedule	**Obligatory**
SMI delivery (basis is delivery schedule)	**Obligatory**

7.3.2. 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.
- 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:

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)

7.3.3. 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" [4].

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

If the SUPPLIER notices that it has sent an incorrect delivery notification despite having exercised all due care, it must notify this without delay to the incoming goods department of the receiving plant concerned in order to prevent an incorrect incoming goods booking being made.

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

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 intracommunity deliveries within the European Union, 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.

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

8.2. Deliveries which cross an EU external border

Additionally, the respective separate standard operation procedure (SOP) applies to all SUPPLIERS in CHINA; INDIA; KOREA and TURKEY who process their exports via the CUSTOMER's regional freight forwarder. The SOP specifies the delivery process, responsibilities and runtime tables. It also specifies the points of contact and hub addresses of the CUSTOMER's local freight forwarders for overseas transports. [4]

Otherwise, 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 of the goods must enclose a copy of the delivery note, packing list and commercial invoice in a self-adhesive document envelope in accordance with 7.1.

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 documents 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 loader, the supplier is jointly responsible for the proper securing of the load in accordance with the applicable German legislation.

For delivery, 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.

9. Transportation

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

If a shipment is transported by one of the CUSTOMER's area-forwarder, the area forwarder is responsible for its transportation from collection until delivery to the destination, including the operation of any time window management systems. This does not release the SUPPLIER from its responsibility as the shipper for proper packaging and load securing. [4]

The SUPPLIER must consult the area-forwarder directly regarding any collections or changes. If there is a risk of delay due to a delayed notification of shipment or delayed collection, the CUSTOMER's scheduler/orderer must be included in the communication process.

9.2. Shipment carried out by the SUPPLIER or its carrier

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

- the provision of information in the event of a potential delay,
- 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.

9.3. 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.

9.4. Return of empty containers/packaging

For POOL exchangeable packaging (only DIN mesh box pallet and DIN EURO pallet), the empty packaging management rules apply within the POOL exchange region.

Otherwise, the following rules apply to SUPPLIER- or CUSTOMER-specific packaging if nothing to the contrary is specified in the individual contract:

If the CUSTOMER is responsible for transporting the cargo, the return shipments of the empty packaging are commissioned and paid for by the CUSTOMER.

If the SUPPLIER is responsible for transporting (the goods), the supplier must organise and pay for the return shipments.

10. Acceptance of goods, unloading and receipt of goods

10.1. 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 Dortmund Van Eupen external warehouse in Unna	Transporeon
WILO SE, Dortmund plant	*(currently at planning stage)*

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.

10.1.1. In the case of unloading at the WILO Dortmund Van Eupen external warehouse in Unna

The supplier or its carrier always notifies the shipment by making the corresponding time slot booking in the time slot system.

The SUPPLIER or its carrier must conclude a separate usage contract for this purpose with the Transporeon company in order to obtain access to the system.

It must contact Transporeon in order to do this. Contact is made by sending an e-mail to:

- support.west@transporeon.com
- The Transporeon staff will send you further information.

10.1.2. Usage provisions for time window management with Van Eupen

In the case of one-off deliveries, a time window can also be booked with van Eupen over the phone.

Contact: Timeslot-Unna@vaneupen.com; Tel. +49 (2303) 98616 – 701 or 702

A loading time slot can be booked up to 5 p.m. on the previous day. The duration of the time slot is two hours.

The reference number for booking and registration is the supplier, and the CUSTOMER for delivery.

On arrival, the driver reports to the driver reporting point at the plant premises and provides the corresponding reference. This must occur no later than 15 minutes before the start of the booked loading time slot (e.g. 7:45 a.m. for time slot starting at 8:00 a.m.).

A time slot means the internally determined loading or unloading capacity in the respective area, which can be seen on the platform.

In order to avoid workflow difficulties, all vehicle drivers are obliged to adhere strictly to the time slots.

If it is not possible to adhere to a time slot, the person responsible must book a new time slot promptly (rebook), or get in touch with the van Eupen contact person.

10.1.3. Not included within time window management

Not affected are suppliers which are integrated into the CUSTOMER's transport network and which notify their shipments to one of the CUSTOMER's contracted area-forwarder. In this case, the CUSTOMER's area-forwarder assumes responsibility for, and undertakes, the processing.

We therefore explicitly recommend using the CUSTOMER's procurement logistics ("Inbound Logistics") transport network, because the dispatch employees then only have to notify the shipments that are required to the CUSTOMER's area-forwarders. The latter then make the time window booking as well as carrying out the transportation.

In order to do this, the SUPPLIER can contact its partners in the CUSTOMER's purchasing department and provide them with corresponding quotations based on FCA terms ex the supplier handover location.

However, if the SUPPLIER already uses its own carrier to make FCA or EXW deliveries, the SUPPLIER can contact the CUSTOMER's Inbound Logistics department at Antonio.Rodrigues@wilo.com in order to check if it is possible to switch to one of the CUSTOMER's area-forwarders.

10.2. Unloading at a platform

UNLOADING AT A PLATFORM is generally carried out at the CUSTOMER's premises.

Receiving location	Unloading situation
Dortmund plant, Nortkirchenstrasse	Unloading at a platform
External warehouse, Van Eupen, Unna	Unloading at a platform
Dortmund plant, electronics manufacturing, Strümpenbusch	Unloading at a platform
Dortmund plant, Service, Felicitasstrasse	Unloading at a platform
Minden plant	Floor level unloading (unloading by forklift) [4]
Oschersleben plant	Unloading at a platform, fork lift truck unloading for bulky parts and long goods
External warehouse, Krage & Gerloff, Schwanebeck	Unloading at a platform
Hof plant	Predominantly floor level unloading (fork lift unloading), platform only for parcel deliveries
External warehouse, Dachser, Oberkotzau	Unloading at a platform

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

11.1. Receipt of goods and associated supplier rating

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 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.

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
Kontinental	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. [4]

11.2. 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 SUPPLIER fails to comply with the provisions of a logistics contract, these delivery guidelines, packaging instructions, or a packaging agreement, the SUPPLIER will receive a logistics complaint calling on it to take corrective measures. All complaints flow into the CUSTOMER's evaluation of the SUPPLIER.

11.3. Lump sum penalties for deviations

In addition to the gross breaches of duty described in the logistics contract which lead to a refusal to take acceptance of goods or the mandatory payment of damages (additional costs) for express and special shipments, lump sum penalties are applied in the following instances if the delivery guidelines are not adhered to:

Delivery notifications not available when the goods are received	EUR 50	Per incident
The providing to the CUSTOMER or to the contract carrier commissioned by the CUSTOMER of DB mesh box pallets which cannot be exchanged ("NE") according to generally recognised codes of practice: the SUPPLIER is charged the additional costs for repair and administration.	EUR 100	Per mesh box pallet

12. 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 [4]	Antonio Rodrigues	31.08.2017

13. Appendix

13.1. Example of VDA 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. no. (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

13.2. Example of VDA 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. no. (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**	

13.3. Example of VDA-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 – 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) **MIX**			
(9) Max. no. (Q)		(10) Description of delivery, service **MIX**	
		(11) Supplier reference number (30S) **MIX**	
(12) Supplier number (V) **123456789**		(13) Shipping date **D 08.04.2016**	(14) Engineering change status
(15) Package no. (M) **HU00002117**		(16) Batch number (H)	

(17) Material Tag VDA 4902, Version 4

13.4. Example of EDI VDA 4912 waybill

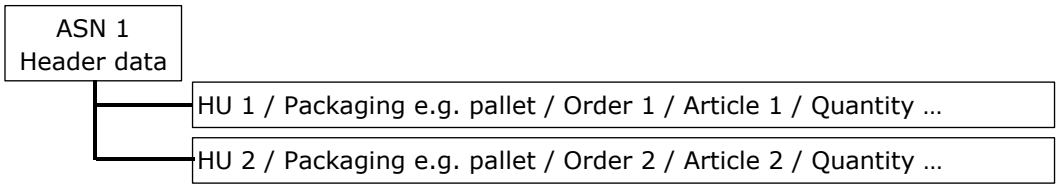
EDI - WAYBILL		**SHIPMENT NO.:**	**1234567**			**11/11/2015-08:00**
						SHEET 1/01
SUPPLIER	-PLANT: 0401	RECIPIENT	-PLANT:	15	UNLOADING SITE:	BLDG20
	-NUMBER: 330091		-NUMBER:	543215	STORAGE LOCATION:	WE02
					PLACE OF USE:	
Sample company GmbH		WILO SE			SHIPPING METHOD:	LORRY
Sample street 1		Nortkirchenstrasse 100			CARRIER:	
123456 Sample town		44263 Dortmund			-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	CUST. TYPE NO.	200	ITEM	Stratos Pico		01920
07/10/2014	012000011			25/1-6-4132453 circulation pump		
001	VP: 0000000001	KD PKIMNR	X	00000000001	LF PKMN	
00020002	CUST. TYPE NO.	200	ITEM	Domestic hot water circulation pump		01920
07/10/2014	012000050			Star-Z Nova A		
002	VP: 0000000001	KD PKIMNR	X	00000000001	LF PKMN	
00020003	CUST. TYPE NO.	100	ITEM	Yonos Pico		01921
07/10/2014	112000003			25/1-6 1804164003 heating pump		
001	VP:0000000001	KD PKMNR	X	00000000001	LF PKMN	
	VP:0000000001	KD PKMNR	X	00000000001	LF PKMN	

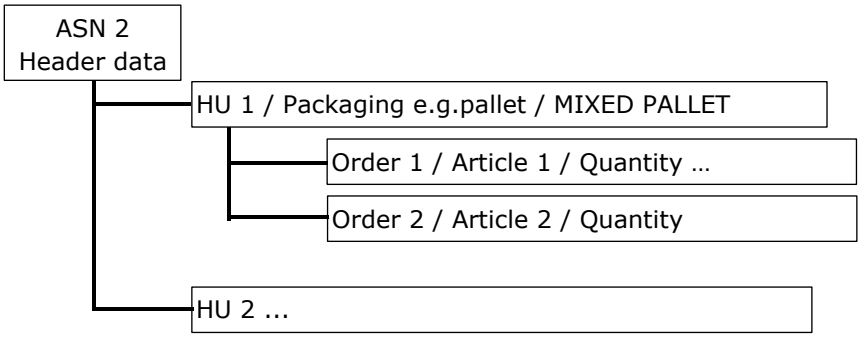
******** END ********

13.5. Sample packaging structures specified in the delivery advice [4]

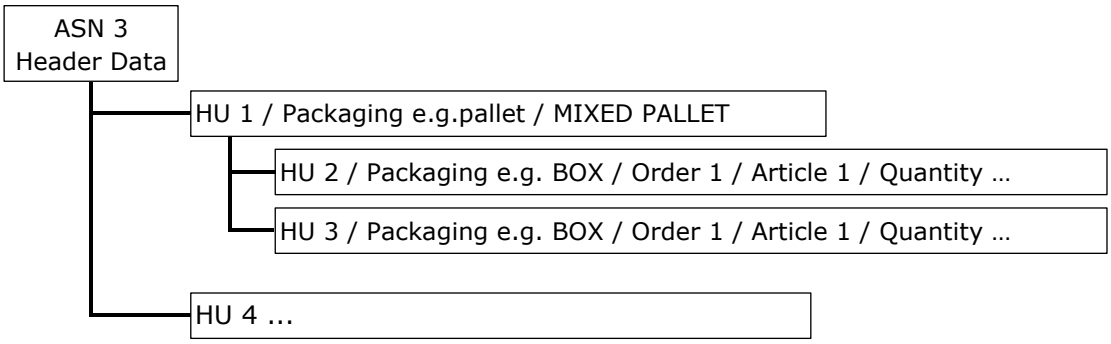
13.5.1. One single level, 2 pallets, one article on each pallet:



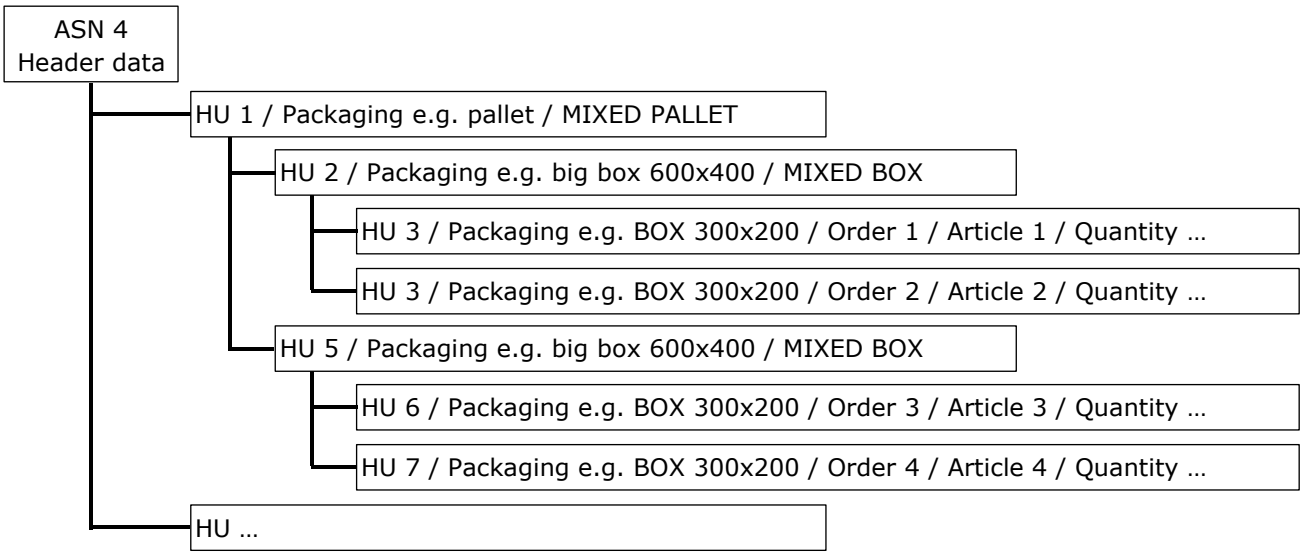
13.5.2. Two levels, Mixed-pallet, multiple articles on the pallet w/o own packaging:



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



13.5.4. 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 examle 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.