Logistics Guideline for Suppliers
J.M. Voith SE & Co. KG
Division Turbo
Crailsheim Location

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This document describes the generally applicable, logistical requirements posed by J.M. Voith SE & Co. KG, Division Turbo - Crailsheim Location (called VTCR in the following) to their suppliers at the time of the editorial deadline on 2018-10-01.

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1 Purpose and Field of Application

This Logistics Guideline will inform the supplier of Voith in Crailsheim (VTCR) about the logistical VTCR requirements to ensure an efficient and smooth material flow between the supplier and VTCR. This guideline applies to all deliveries. The Logistics Guideline is an addition to the existing contractual agreements. The guideline applies to the following plant:

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2 Packaging

Suitable packaging protects the employees from accidents at work and the material/goods from damage and incorrect handling throughout the whole logistics chain. At the same time, the whole process chain is optimized: Beginning with the packaging at the supplier, through to the shipment, transport, receipt of goods, incoming goods inspection, storage to the machining in Manufacturing and the taking-out for Assembly. The supplier is responsible for the compliance with the general and special packaging guidelines. VTCR reserves the right to inspect the packaging at the supplier at any time.

2.1 General packaging guidelines

It is vital to basically plan and standardize packings following economical and ecological aspects. Unified packings result in uniform processes with learning effects and less possible errors. This will result in a far-reaching quality assurance, an effective material handling, an increased safety at work and an improvement of the ecological footprint. The packaging guidelines are to be considered as minimum requirements. The supplier will be charged with the costs for damages that are due to inadequate packing during the transport. Should the supplier state that additional measures for protecting the goods/material are required, these should be taken in consultation with VTCR.

2.1.1 Basic packaging information

- The packaging has to be provided so that the packed material/goods and their packing can be transported, handled and stored without damage.
- Climatic influences during the transport are to be considered with regard to corrosion protection and the choice of packing.
- Delivery has to be made preferably homogeneous, i.e. one type of material only and separately of each other on pallets according to the unloading point. Material/goods with low volume may be put on pallets to form ‘mixed pallets’. It is vital to
separate goods/material from each other with different material numbers and must not be stacked one above the other.

- Basically, materials/goods must not protrude the load carrier. Machined materials/goods must by no mean protrude the load carrier unprotected.
- All components of a set of materials/goods (material number consists of several components) shall be packed jointly and in sets on one load carrier if permitted by the dimensions. If such are packed on several load carriers, these have to be marked clearly to each other. Small parts as accessories kit (e.g. screws, nuts, washers) are to be packed separately in plastic bags and to be fixed to the set of materials/goods.
- Observe the weight limit of load carriers (e.g. EUR-pallet and EUR-box pallet: 1000 kg).
- Observe the center of gravity of the load of load carriers, and mark, if necessary.
- It is not allowed to used damaged load carriers.
- Material/goods with a single weight of more than 15 kg of a part need to be positioned so that these may be taken safely and directly from the load carrier by a lifting appliance.
- The size of the load carrier shall be limited to the industrial dimension (1200x1000 mm) provided that this is possible regarding the dimensions of the material/goods.
- Materials/goods must not be free to move around within the packaging and on the load carrier. Packings and individual material/goods have to be fixed slip-proof to the load carrier in any direction. When lashing, protect the material/goods against damage by the lashing strap. For machined materials/goods, use cushioning material and oil paper between the material and the packing (e.g. pallet, undulate wood). Route the lashing strap without damaging the load carrier (e.g. pulling upwards of individual boards, deformation of KLT).

2.1.2 Packaging materials

- Basically, standardized multi-use packaging (EUR-pallet empties) and VTCR empties shall be used.
- Dangerous substances are excluded as packing material.
- All wood used (crates, pallets, dunnage bars, etc.) must be treated in accordance with the IPPC standard and marked accordingly.
- As cushioning and packing material, use plastic padding, air bags and bubble wrap. It is not allowed to use styrofoam chips, foam packing, wood wool, straw, waste paper.
- Basically, plastic or textile straps are to be used for lashing goods. Only for very heavy and sharp-edged goods, where the tear strength and the material characteristics of plastic and textile straps are not suitable, steel straps may be used.

2.1.3 Packaging categories

- Packing for package:
  Material/goods with low volume have to be joined to packing units by means of KLT / cartoons which must not exceed a total weight of 15 kg. From a gross weight of 15 kg, it is necessary to provide the packing units for fork-lift truck handling.
  Exception: Deliveries of parcels up to 31.5 kg.
• Pallet packaging:
  Material/goods that cannot be packed in KLT / cartoons due to their size, have to be packed directly on pallets suitable for handling by fork-lift truck.
• Crate packaging:
  If material/goods are packed in crates, the crate design has to be suitable for the total gross weight. Moreover, the crates have to be suitable for handling by fork-lift trucks. The cover and struts of the crates have to be bolted. A marking of the center of gravity has to be provided on the outside of the crate.

2.2 Special packing guidelines

Besides the general packing guidelines, VTCR can define order-specific or product-specific packing guidelines with individual suppliers.

2.3 Marking guidelines

Dependent on the kind of material/goods it may be necessary to classify and mark the materials. It is vital that the marking is immediately apparent. Classification is made by means of symbols of the structure and notes regarding handling.
• The parts shall be clearly marked on the outside with identification symbols as determined by VTCR or if this determination is missing, according to the supplier's estimation.
• Identification has to be affixed weatherproof. Stickers shall not be used for unfinished parts and mechanically machined parts.

3 Empties Pool

VTCR makes available to suppliers located in EU multi-use load carriers, free-of-charge, from the empties pool. Excluded are EUR-pallet empties. The load carriers always remain property of VTCR. All multi-use load carriers used at VTCR are listed in the "Empties Pool" file. This file supports the supplier in complying with the packing guidelines. The load carriers are provided exclusively for the physical transport from the supplier to VTCR and must not be misused.

Suppliers may contact VTCR for suitable load carriers according to their shipping scheduling. The required quantity of empties shall serve for the shipment within the next four weeks. Notification and organization of the empties transport will be done by VTCR.

3.1 Request for empties

• Fill in the defined ordering form.
• Send the form by e-mail to VTCR.Leergut@Voith.com.
• Send the request for empties at least 5 working days before they are required.
3.2 Keeping the empties account

- EUR-pallet empties are to be exchanged directly with the forwarding agent.
- Balancing of account is done at the same time when ordering empties in the respective column provided.
- An extraordinary inventory is performed as required.

4 Accompanying Documents

All documents to be sent shall be created according to DIN or VDA recommendations.

4.1 Delivery note according to DIN 4991

VTCR needs a delivery note describing clearly the goods for the goods receipt in the incoming goods department. It is necessary to basically create the delivery note according to DIN 4991 and to put it into an envelope easily accessible for fixing to the respective load carrier. To ensure a good condition of the delivery note, auxiliary means such as staples for fixing the delivery note to the pallet shall not be used. Moreover, a delivery note needs to be created per order and package. If orders are split, the quantity per load carrier has to be indicated in the delivery note.

Among others, the following data need to be indicated on the delivery note:

- Sender:
- Delivery address
- Delivery note number, possibly with bar code (Code 128)
- Order number, possibly with bar code (Code 128)
- VTCR material number
- Material description
- Quantity
- Serial and batch number (if any)
- Date of manufacture or best-before-use date (if any)
- Gross and net weight per delivery item
- Unloading point

Please find a sample delivery note in the annex of this logistics guideline.

4.2 Shipping order (bill of lading) according to VDA

The shipping order is intended to accompany the consignment from the supplier to VTCR and should possibly be issued according to VDA. It is mandatory to hand over this shipping order to the truck driver who has then to hand over the same as proof of delivery to the VTCR Incoming Goods department.

In case of different unloading points at VTCR, it is necessary to issue a separate shipping order for every unloading point. In addition, the material/goods have to be packed separately of each other on various load carriers dependent on the unloading point.
For detailed information on 'Shipping Orders', please see the VDA recommendation.

Please find a sample shipping order in the annex of this Logistics Guideline.

### 4.3 Bar-code readable goods label according to VDA 4902

For a clear identification of materials/goods, the supplier has to create bar-code readable goods labels according to VDA 4902. The label shall have DIN A5 landscape format.

Fix the goods label / routing card so that it can be easily read and is splash-water-protected, as follows:

- If one material with material number is on the load carrier, use one label to identify this material number.
- If there are several materials/goods on one load carrier, form packing units to clearly separate the material. Provide each individual packing unit with one label.
- If material/goods of one material number are put on several load carriers, fix one label each per load carrier for identification. The quantity per load carrier has to be shown.

For detailed information on labels, please see VDA 4902.

http://www.vda.de/de/publikationen/publikationen_downloads/index.html

Please find a sample label in the annex to this logistics guideline.

### 5 Guidelines for Transport and Delivery

The following guidelines describe VTCR's requirements with regard to transport and delivery.

#### 5.1 Loading instructions

The goods have to be unloaded laterally in the VTCR incoming goods hall. When loading the truck, the load carrier has to be positioned so that unloading of the load carrier is possible towards the left in driving direction, and that all required load carriers can directly be unloaded.

#### 5.2 Notification of delivery

Dependent on the weight and dimension of the consignment, suppliers have to authorize an own forwarding agent and/or parcel service provider. For consignments with Incoterm FCA, notify a forwarding agent specified by VTCR with the consignment, following the information contained in the order.
The date of delivery to VTCR has to comply with the confirmed date of the order/order confirmation.

5.3 Pre-announcement of large-sized parts

When heavy (> 4 t) or large (> 1800 x 1800 mm) materials/goods shall be supplied, the supplier has to inform the competent VTCR expediter at an early stage about the delivery.

5.4 Extra tour

Basically, extra tours are to be agreed with the competent VTCR expediter. In case of an extra tour, only the urgently required part shall be loaded.

5.5 De-central unloading points

In order to reduce the rate of turnover of some materials/goods, several separate unloading points exist at VTCR (main unloading point L.02). Please see the order for these unloading points. Basically, the goods shall be put on pallets. For such de-central deliveries of goods it is necessary to create a separate forwarding order and to notify this delivery 24 hours prior to the delivery with delivery notes to VTCR.Leitstand-WE@Voith.com.

5.6 Cargo securing

As per §22 Road Traffic Regulations and §412 German Commercial Code, all groups of persons (drivers, shippers, senders, carriers) involved directly or indirectly in the loading, are responsible to ensure a proper securing of the cargo. Besides the legal regulations, it is vital to comply with VDI Guideline 2700 containing information for the safe and reliable handling of the cargo on road vehicles.

6 Hazardous substances and dangerous goods

For materials to be classified as hazardous substances and / or dangerous goods, the specified statutory provisions of the Dangerous Chemicals Ordinance and the dangerous goods legislation. VTCR reserves the right to agree special regulations with the supplier in addition to the statutory provisions.

Packaging / transport:
Dangerous substances have to be packed in a permitted container. Frost-sensitive dangerous substances have to be protected against frost damages by using suitable packings. During transportation, frost-sensitive dangerous substances must not be exposed to weather-related influences. If required, VTCR makes available insulated jackets (thermal hoods).

7 Deviations from agreed Guidelines

In general, the agreements reached with the supplier apply (see the purchase conditions).

Any delivery beyond the standard needs to be notified as early as possible to VTCR for approval. Non-approved deviations will be objected by a complaint against vendor from Logistics. Complaints against vendors will also be regarded in the evaluation of suppliers.

In case of rough deviations, receipt of the goods may be refused (e.g. infringement of the safety regulations). Costs incurring for multi- and return transports have to be borne by the supplier.
Sample for a delivery note according to DIN 4991
Sample of a shipping order according to VDA
Sample of a goods label according to VDA 4902 with bar code 128
<table>
<thead>
<tr>
<th>Benennung</th>
<th>Bildzeichen</th>
<th>Benennung</th>
<th>Bildzeichen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vor Nasse schützen</td>
<td><img src="image" alt="Umbrella" /></td>
<td>Anschlagen hier</td>
<td><img src="image" alt="Chain" /></td>
</tr>
<tr>
<td>Keep dry</td>
<td>Sling here</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vor Hitze (Sonneinsteinstrahlung) schützen</td>
<td><img src="image" alt="Sun" /></td>
<td>Zerbrechliches Packgut</td>
<td><img src="image" alt="Glass" /></td>
</tr>
<tr>
<td>Keep away from heat</td>
<td>Fragile, Handle with care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keine Handhaken verwenden</td>
<td><img src="image" alt="No Hooks" /></td>
<td>Oben</td>
<td><img src="image" alt="Up Arrow" /></td>
</tr>
<tr>
<td>Use no hooks</td>
<td></td>
<td>This way up</td>
<td></td>
</tr>
<tr>
<td>Schwerpunkt</td>
<td><img src="image" alt="Center of Gravity" /></td>
<td>Steckkarre hier nicht ansetzen</td>
<td><img src="image" alt="Do Not Use Truck" /></td>
</tr>
<tr>
<td>Centre of gravity</td>
<td></td>
<td>No hand truck here</td>
<td></td>
</tr>
<tr>
<td>Klammer in Pfelrichtung</td>
<td><img src="image" alt="Clamp" /></td>
<td>Sperrschicht nicht beschädigen</td>
<td><img src="image" alt="Do Not Destroy Barrier" /></td>
</tr>
<tr>
<td>Clamp here</td>
<td></td>
<td>Do not destroy barrier</td>
<td></td>
</tr>
<tr>
<td>Elektrostatisch gefährdetes Bauelement</td>
<td><img src="image" alt="Static Sensitive" /></td>
<td>Zulässiger Temperaturbereich</td>
<td><img src="image" alt="Temperature Limitation" /></td>
</tr>
<tr>
<td>Electrostatic sensitive device</td>
<td></td>
<td>Temperature limitations</td>
<td></td>
</tr>
<tr>
<td>Gabelstapler hier nicht ansetzen</td>
<td><img src="image" alt="Do Not Use Forklift" /></td>
<td>Zulässige Stapelast</td>
<td><img src="image" alt="Stacking Limitation" /></td>
</tr>
<tr>
<td>Do not use fork lift truck here</td>
<td></td>
<td>Stacking limitation</td>
<td></td>
</tr>
<tr>
<td>Vor Hitze und radioaktiven Strahlen schützen</td>
<td><img src="image" alt="Heat and Radiation" /></td>
<td>Außense her</td>
<td><img src="image" alt="Tear Off Here" /></td>
</tr>
<tr>
<td>Protect from heat and radioactive sources</td>
<td></td>
<td>Tear off here</td>
<td></td>
</tr>
</tbody>
</table>

General identification symbols