



# **Annex to the Supplier Logistics Manual of Robert Bosch GmbH applicable for plant Buehl**

Legal entity Robert Bosch GmbH  
-in the following referred to as „BOSCH“-

Business Unit

Plant

Address

Postal Code/Location

Electrical Drives

Buehl

Robert-Bosch-Straße 1

77815 Buehl, Germany

**-in the following referred to as „BueP“-**



## Inhalt

<b>List of abbreviations .....</b>	<b>3</b>
<b>Scope of this annex for plant Buehl .....</b>	<b>4</b>
<b>1. Definition and general requirements for all types of packaging.....</b>	<b>5</b>
1.1 Requirements for reusable packaging.....	6
1.2 Requirements for disposable packaging.....	8
1.3 Alternative packaging .....	11
<b>2. Label .....</b>	<b>12</b>
2.1 Master Label .....	12
2.1.1GTL Label .....	12
2.1.2VDA Label .....	12
2.2 Sub-label.....	14
2.3 DMC-Label .....	14
2.4 Label bei vorgelagerten Umpackprozessen .....	14
<b>3. Ordering empties .....</b>	<b>15</b>
<b>4. Complaints .....</b>	<b>16</b>
4.1 Complaints by BueP .....	16
4.2 Complaints by the supplier .....	16
4.3 Marking the goods after complaint or modification.....	17
<b>5. Transport .....</b>	<b>18</b>
5.1 Transport Handling .....	18
5.2 Advance Shipping Notice .....	18
5.3 Delivery note and transport documents .....	18
<b>6. Contact .....</b>	<b>19</b>
<b>7. Approval .....</b>	<b>20</b>



## List of abbreviations

ASN .....	Advance Sipping Notice
BueP.....	Buehl Plant - Bosch Lead Plant in Buehl
BueP/LOD .....	Department responsible for packaging at Bosch Buehl
DMC .....	Data Matrix Code
LSP.....	Logistics Service Provider
EMS.....	Empties Management System (SupplyOn)
EZRS.....	Raw materials
GTL .....	Global Transport Label
KLT.....	KLT boxes
BueP/LOI.....	Logistics Innovation, IT Systems and Processes



## Scope of this annex for plant Buehl

This annex serves as an addendum and specification of the currently valid Bosch Supplier Manual and is exclusively valid for deliveries to the Buehl plant (BueP) .

Deviations from the defined requirements must be aligned and approved in advance by the BueP contact person.

Any undefined and unapproved deviation from the requirements listed in this annex as well as the specifications of the Bosch Supplier Manual will be claimed.

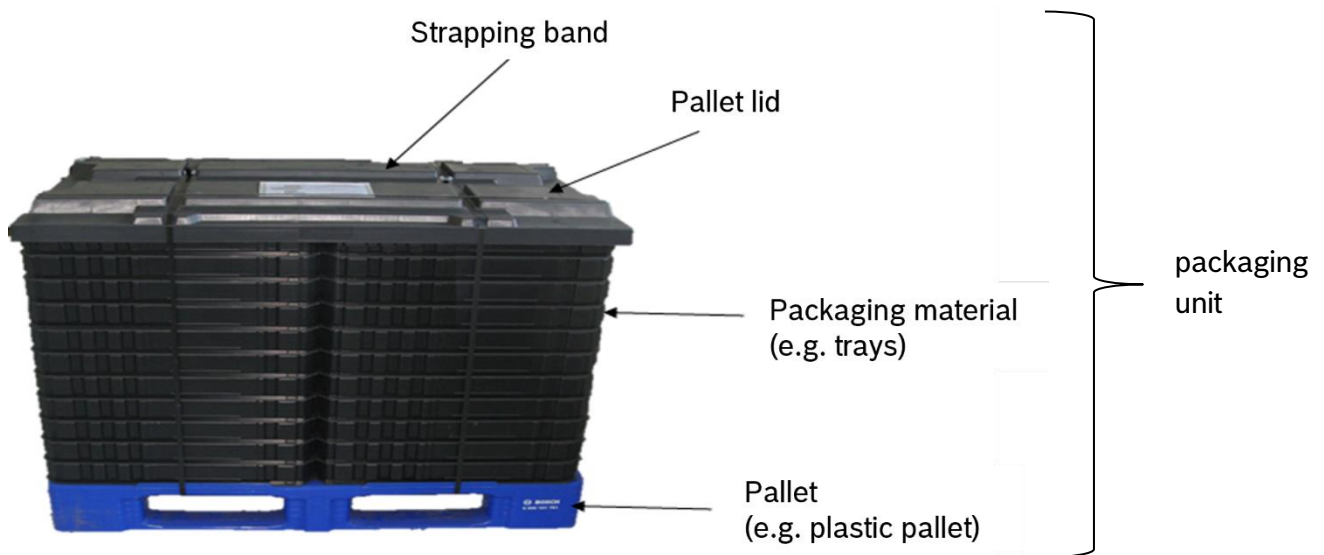
The annex for the plant Buehl does not require the approval of the suppliers and becomes valid by publication.



# 1. Definition and general requirements for all types of packaging

A packaging unit is referred to the totality of all packaging materials as well as the packaging aids and is combined as a unit for transportation. An example of a packaging unit is the combination of:

- Pallet (Euro, wooden- or plastic pallet)
- Packaging material (KLT boxes, tray, KLT- or tray lid, molded insert, carton boxes)
- Pallet lid
- Strapping band
- if applicable stretch wrap.



The packaging of the products delivered to Buehl Plant is defined in the packaging data sheet and signed by the supplier. The packaging is approved with countersigning of the packaging data sheet by the BueP/LOD department. Every delivery must be made in the approved packaging. The current format of the packaging data sheet will be provided by BueP/LOD.

The following requirements must be considered for all packaging concepts for BueP:

- The total maximum weight of a packaging unit is not allowed to exceed 750 kg.
- The maximum overall height of a packaging unit must not exceed 1.000 mm
- The minimum under-run height of a pallet is 95 mm.
- The packaging materials on the pallet are not allowed to overlap.
- Mixed pallets are only allowed if they are marked as mixed pallets.



## 1.1 Requirements for reusable packaging

Pallets with dimensions of 1.200 x 800 mm must be used as load carriers. The maximum weight for the smallest filled packaging unit is 10 kg.

In BueP various pool KLT boxes are in use. The number of KLT boxes per layer or packaging unit in BueP is listed below:

TYPE OF KLT BOX	EXTERNAL DIMENSIONS [MM]	KLT BOXES PER LAYER	MAX. KLT BOXES PER PACKAGING UNIT
<b>KLT BOX 3147/3148</b>	297 x 198 x 147	16	48
<b>KLT BOX 4147/4148</b>	396 x 297 x 147	8	48
<b>KLT BOX 4280/4281</b>	396 x 297 x 280	8	24
<b>KLT BOX 6147/6148</b>	594 x 396 x 147	4	24
<b>KLT BOX 6280/6281</b>	594 x 396 x 280	4	12

When delivering in KLT boxes, full containers should be shipped if possible. If this is not possible due to smaller order quantities, it must be ensured that delivery is made in full layers. To ensure transport safety, the layers that are not full must be filled with empty KLT boxes. The empty KLT boxes used for this must be listed on the delivery note and also have to be announced in the (e)ASN.

To ensure the transport safety, the packing unit must be banded. The end of the banding is not allowed to stick out.

The following part applies to packaging units for which foiling is mandatory.

To maintain cleanliness of the packaging units the supplier must ensure that the plastic foil on a stretch wrapped packaging unit remains at the packaging unit and is not removed until ready for use at the place of consumption.

Packaging units containing cleanliness-relevant products must be stretch wrapped directly after production or packaging process at the supplier.

Furthermore, the foil wrapping must be tight and applied with a minimum of three wraps. The pallet feet should not be completely covered with foil. The foil wrapping may overhang the top deck of the pallet by a maximum of 3 cm.



The type of foil must be selected so that the packaging remain protected from particulate contamination during internal handling at the supplier's facility and the transport to BueP. It must be ensured that the pallet can be transported with a forklift without damaging the foil. The ends of the foil are not allowed to protrude, and, for reasons of transport security, each packaging unit must be additionally banded after foiling.

The picture shows an example of a correctly foiled packaging unit.

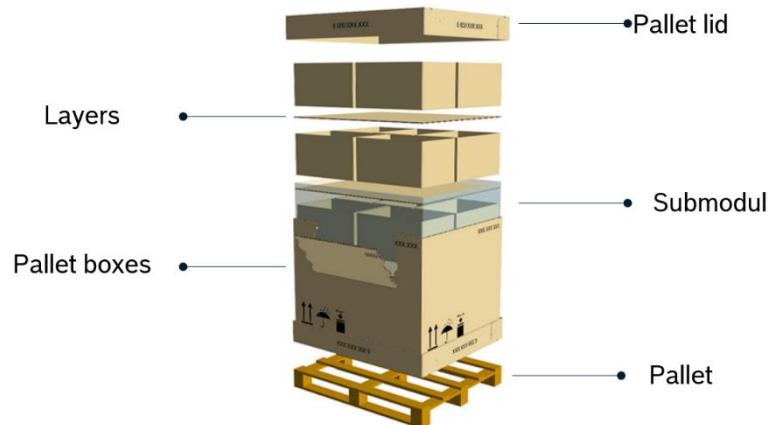


Picture 1: correct foiled packaging unit

In the case of sorting operations instructed by the supplier, it must be ensured that clean empties are delivered to the sorting company and that the containers are delivered in accordance with the packaging data sheet. The supplier is responsible for ensuring delivery in accordance with the packaging data sheet and any cleanliness requirements.

## 1.2 Requirements for disposable packaging

The requirements for disposable packaging include pallets, pallet boxes and the corresponding lids and submodules (see picture 2).



Picture 2: Components of disposable packaging

### 1.2.1 Pallets

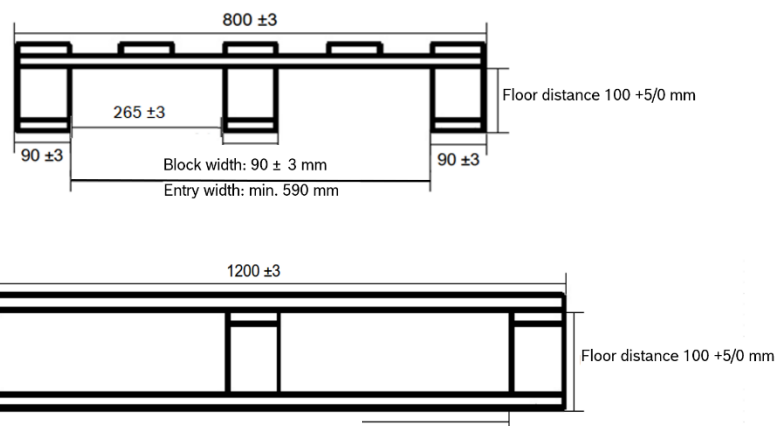
For pallets the following requirements are relevant:

#### Nominal dimension:

- Basic dimension (LxB): 1200x800 ± 3 mm
- Floor distance: 100 +5/0 mm
- Entry width: min. 590 mm
- Block width: 90 ± 3 mm

#### Construction:

- 9 blocks
- 3 floor boards
- 3 cross boards
- 5 oder 7 deck boards (5 pcs à 1200x110 mm or 7 pcs à 1200x80 mm)
- Minimum 2 nails per connection point, to avoid the blocks from twisting.



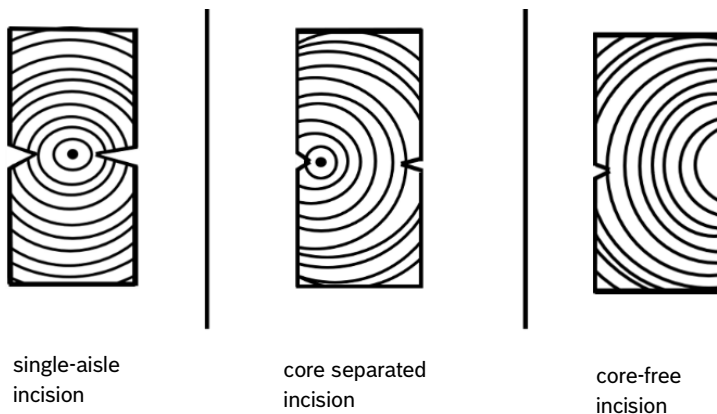
Picture 3: requirements of the pallets

Boards:

- Solid wood or
- Plywood of formaldehyde class E1 with gluing for humid areas according to DIN EN 314-2

Further requirements:

- Blocks made of pressboard or solid wood with core-free or core-separated incisions



- compliance with the currently valid delivery regulation from Annex 1 for packaging materials with solid wood content. With the publication of the BueP Annex in 05.2023, the delivery regulation from Annex 1 is valid. The latest version or the information in the Logistics Supplier Manual is always valid.
- Maximum loading capacity (ISO 8611-3) corresponds to at least the weight of the load unit.
- Result of the stacking test (ISO 8611 No. 4b) corresponds to min. the maximum payload plus the required stacking load according to the agreed stacking factor (1+1).

Only in exceptional cases and after explicit approval by BueP/LOD the following pallet dimensions (LxW) are possible:

- 1140 x 790 mm
- 1140 x 980 mm

**1.2.2 Pallet boxes**

For pallet boxes the following requirements are relevant:

Nominal dimension:Lid or bottom

- Outer dimension: 1197x797 ± 3 mm

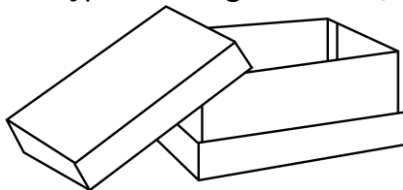
Pallet ring

- Outer dimension: 1187x787 ± 3 mm
- Height: 840 / 540 / 365 ± 3 mm

The height of 840 mm is preferred if the weight limit of the load unit can be kept.

Further requirements

- FEFCO-Typ 0310 (siehe Picture 4)
- Wet burst strength BST (ISO 12625):  $\leq 450$  kg: 1200 kPa;  $> 450$  kg: 1800 kPa
- Recommendation for type of corrugation for lid/bottom outer box: BE



Picture 4: Schematic representation of FEFCO Typ 0310

**1.2.3 Submodule**

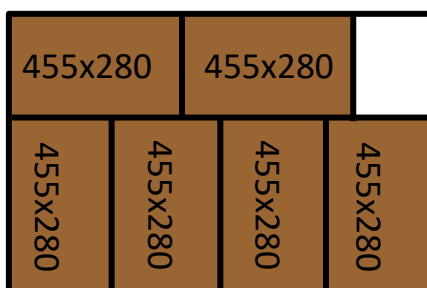
For Submodules the following requirements are relevant:

Basic dimension (LxW):

- 558x368 mm (4 submodules per layer)
- 368x280 mm (8 submodules per layer)
- 280x180 mm (submodules per layer)

picture 5: Schematic representation of the orientation of the boxes with the size 455x280mm on the pallet

In exceptional cases, the basic dimension of 455x280mm can be used with 6 submodules per layer. The orientation of the boxes on the pallet is shown in figure 6. The resulting empty space in the outer box must be filled with filler material.



Picture 6: Schematic representation of FEFCO type 0201

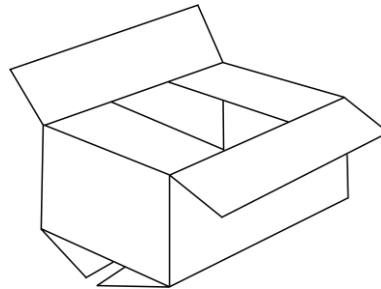
Recommended height:

- 6 layer submodules: 138 mm (Ring 840)
- 4 layer submodules: 207 mm (Ring 840)
- 2 or 3 layer submodules: 178 mm (Ring 540/365)

When using different box heights, the complete filling of the outer box must be ensured by using filling material, if necessary.



FEFCO type 0201 cardboard boxes are required and e-flute cardboard boxes are recommended (see picture 7).



Further requirements:

- The maximum weight of the smallest packaging unit must not exceed 9kg.
- If delivery without a pallet box is approved by Bosch in exceptional cases, the individual boxes must not overlap on the pallet.
- The carton boxes must be easy to open (e.g. closure only with an adhesive strip), see picture 8.



Picture 7: Display of an adequately sealed cardboard box

### 1.2.4 Securing of Load

The load must be secured fourfold by strapping (2x lengthwise, 2x crosswise). This does not apply to containers where the bottom of the pallet box is fixed to the pallet to prevent slipping.

If, in exceptional cases, it is necessary to wrap the packaging in foil, this must be done with at least three wraps and must be firmly fixed. The ends of the wrapping and the banding must not protrude.

## 1.3 Alternative packaging

If deliveries in alternative packaging are required, this must be coordinated and approved in advance with BueP/LOD. In case of deliveries in alternative packaging, a correct listing on the delivery bill and consideration in the account balance is necessary.



## 2. Label

### 2.1 Master Label

Global Transport Labels (GTL) according VDA 4994 are used in BueP.

The suppliers who still use main labels according to VDA 4902 / ODETTE will be accompanied step by step by the project team during the change. Masterlabel are needed for all deliveries in reusable and disposable packaging.

In general, labels are not allowed to be glued on trays, KLT boxes or pallets. Also, the use of self-adhesive labels is not permitted. Labels must always be placed on the pallet lid.

Further supplier-specific additional labels are not permitted.

#### 2.1.1 GTL Label

The requirements for labeling correspond to the Bosch guideline GTL. This can be accessed via the below link.

[Information for business partners | Bosch Global](#)

Furthermore, following additional requirements apply to BueP:

- The GTL (Master label) must be attached to the center of the pallet lid or wire box on both narrow sides (front sides).
- Each label must be fixed with adhesive points in such a way that it is not possible to roll up.
- The adhesive points may not cover the barcodes on the GTL.
- If the package is foiled, the GTL must be applied over the foil.



#### 2.1.2 VDA Label

Suppliers which do not use GTL, must apply a master label according to VDA 4902 / ODETTE.



The master label must contain following items:

<small>(1) Warenempfänger / Receiver</small> <b>my-Fenix-Software</b> Phoenix-Straße 4711 12345 Musterdorf		<small>(2) Abdestelle - Lagerort - Verwendungsschlüssel / Gate</small> <b>Postfach 123456</b> <b>Tel. 999999</b>	
<small>(3) Lieferschein-Nr. / Advice note no. (N)</small> <b>2581752</b> 		<small>(4) Lieferantenanschrift / Supplier address</small> <b>my-VDA-Label, Musterplatz, 12345 Musterdorf</b>	
<small>(5) Gewicht netto / net weight</small> <b>370 KG</b>		<small>(6) Gewicht brutto / gross weight</small> <b>400 KG</b>	<small>(7) Anzahl Packstücke / No. of boxes</small> <b>1</b>
<small>(8) Sach-Nr. Kunde / Part no. (P)</small> <b>765-HGD89-123</b> 			
<small>(9) Füllmenge / Quantity (Q)</small> <b>140</b> 		<small>(10) Bezeichnung, Lieferung, Leistung / Description</small> <b>Geblaese</b>	
<small>(12) Lieferanten-Nr. / Supplier no. (V)</small> <b>4638141</b> 		<small>(11.1) Sach-Nr. Lieferant / Supplier part no. (305)</small> <b>0-123B10-0</b> 	
<small>(15) Packstück-Nr. / Serial no. (S)</small> <b>258175201</b> 		<small>(11.2) PM-Ident-Nr. / Package reference no. (B)</small> <b>6099012</b> 	
<small>(13) Datum / Date</small> <b>D 160417</b>		<small>(14) Änderungsstand Konstruktion / E. change</small> <b>A43-275 XL</b>	
<small>(16) Chargen-Nr. / batch no. (H)</small>  <b>C123</b>			

(17) my-VDA-Label, Musterplatz, 12345 Musterdorf      Warenanhänger VDA 4902

Figure 1: Master label accroding to VDA 4902/Odette

The master label should be applied as shown in the following examples:



## 2.2 Sub-label

The sub-labels are placed on the smallest packing units. The smallest packaging units to be labeled are defined in the packaging data sheet. These can be carton boxes, KLT boxes, trays or entire tray stacks.

The sub-labels are not allowed to be attached with self-adhesive tags on the reusable packaging. The sub-labels, which are attached to the tray stacks, must be attached to the tray lid or the topmost empty tray. In addition, the sub-labels attached to the KLT boxes must be placed in the side pockets provided.



## 2.3 DMC-Label

In some cases, labels with Data-Matrix-Code (DMC) are required. If necessary, those requirements are specified in the packaging data sheet and coordinated with the supplier. There is a specific guideline for DMC-label requirements available from the BueP/LOD.

## 2.4 Label bei vorgelagerten Umpackprozessen

If raw materials are repacked by external service providers before the delivery to BueP, the labels which are defined in the packaging data sheet must be attached to the raw materials delivery. The external service provider must be informed about the labelling process.



### 3. Ordering empties

Ordering empties from the logistics service provider of the plant in Buehl can be done in two ways:

1. Ordering via Empties Management System (EMS)
2. Ordering via E-Mail with an order form

Suppliers connected to EMS must place their orders in the system.

Suppliers not linked to EMS must place their orders via E-Mail, using the currently valid order form. Order forms are available from the BueP/LOD contact persons.

In exceptional cases (e.g. in case of system failures) ordering by e-mail using the valid order form is possible for all suppliers.

Incomplete or incorrect order forms as well as orders placed by telephone will not be processed.

The order lead time is 3 business days before shipment at the EDL. Deviating specifications will be communicated by BueP/LOD. When ordering empties, the supplier must consider the transport times defined by Bosch as well as the collection days of the empties from the logistics service provider.

Any queries regarding orders for empties should be addressed directly to our service provider. In cases where the orders cannot be fulfilled, the open quantities will not be redelivered. Undelivered quantities will be cancelled and may have to be considered by the supplier for the next order.

In cases where sufficient packaging cannot be provided to meet BueP delivery schedules, please contact your BueP/LOD contact in a timely manner.

All packaging materials must be ordered according to the actual demand. If a return of empties is necessary due to overordering by the supplier, the costs of transport will be covered by the supplier.



## 4. Complaints

### 4.1 Complaints by BueP

Not meeting our BueP logistic requirements results in a logistic complaint. In this case, the supplier is informed and requested to analyse the failure or the logistics error via 3D or 8D systems and to initiate measures.

Additional expenses due to this failure are charged to the supplier according to the polluter-pays principle. The logistics complaint is included in the supplier evaluation.

### 4.2 Complaints by the supplier

If a defect is detected during the incoming goods inspection of the empties, it must be reported to the LSP by e-mail. Please also involve the responsible BueP/LOD planner. Complaints must be submitted within 2 working days after receipt of the goods.

For the complaint it is necessary to require the following data:

- Date of detection of damage
- Delivery note number and date
- Packaging number
- Claimed quantity
- Reason for complaint
- Control paper, which is attached to the pallet by the EDL
- Pictures of the points of complaint

Any transport damage must be noted on the transport order immediately after unloading and also has to be reported to Bosch.

If a return transport of the empties is necessary, this must be coordinated in advance with the BueP/LOD contact person. In case of return transports without prior agreement, the supplier will be charged for the emerging costs.



### 4.3 Marking the goods after complaint or modification

In case of a complaint, the supplier must additionally mark the goods with an orange label. The supplier therefore confirms that the marked delivery has been 100% checked for the claimed defect and is therefore in agreed condition.

Also the first delivery after the implementation of a change must be marked with the orange label.

The whole packaging unit as well as all smallest packaging materials (e.g. KLT boxes, trays) have to be marked with the orange label.

The delivery note must always be marked "Good delivery after complaint" or "First delivery after modification". It is mandatory to attach the label in the same way as the sub-labels.

During the goods receiving process in BueP the marking of the packaging units unit will be checked. Deliveries without marking of the packaging unit and the smallest packaging materials will be claimed.

#### Example

208

<b>Gutlieferung nach Beanstandung / Änderung</b>	
<b>Beanst.-Nr.:</b>	<b>Änder.-Index:</b>
<b>Bestell-Nr.:</b>	
<b>Datum</b>	<b>Unterschrift</b>

79



## 5. Transport

### 5.1 Transport Handling

The transports for BueP are coordinated by BueP/LOI, if the payer for freight costs is Robert Bosch GmbH, Plant Buehl. The suppliers receive a routing order from BueP/LOI which contains all instructions for shipment handling, contact persons and, if necessary, special features concerning the transport. The instructions of the routing order must be followed.

### 5.2 Advance Shipping Notice

The notification by "Enhanced Advance Shipping Notification (eASN)" is mandatory before arrival of the goods. The eASN should be issued immediately after collection of the goods and must contain the effective date of dispatch.

### 5.3 Delivery note and transport documents

The delivery note and the bill of lading must be physically handed over to the driver. When registering at the BueP plant, the delivery note (only one copy) and the bill of lading must be handed over physically. Alternatively, digital delivery note processing can be agreed with Bosch and the forwarder. In this case, the supplier transmits the delivery notes digitally to the forwarder. The forwarder prints out the delivery notes and transfers them to BueP together with the waybills upon delivery.

The delivery notes should not be attached to the pallet or packed with the goods.

The delivery note must list the reusable empties used inclusively their quantities. Also, empty reusable packaging and alternative packaging must be listed.



## 6. Contact

If you have any questions, please contact us by contacting the following emailaddresses:

Packaging Topics: ..... [gruppenbriefkasten.buep.log-c@de.bosch.com](mailto:gruppenbriefkasten.buep.log-c@de.bosch.com)

Transport Topics: ..... [gruppenbriefkasten.buep.clp91@bosch.com](mailto:gruppenbriefkasten.buep.clp91@bosch.com)



7. Approval

department:	department:	department:	department:
BueP/LOG	M/PPE		
signature:	signature:	signature:	signature:

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