



Packaging Handbook for Suppliers

Specification for the packaging
of purchased parts

Status: March 2011

SCHAEFFLER GROUP

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1 Current changes

The following chapters have been modified since the packaging handbook (issue 2010):

- | | |
|--------------------|--|
| chapter 2.3 | Adaption of the contact person |
| chapter 6.1 | INA modification level according to drawing of the product replaces by into „INA modification level according of the product „index of document package if it exists, otherwise that of the drawing“ |
| chapter 6.2 | INA modification level according to drawing of the product replaces by into „INA modification level according of the product „index of document package if it exists, otherwise that of the drawing“ |
| chapter 6.3 | INA modification level according to drawing of the product replaces by into „INA modification level according of the product „index of document package if it exists, otherwise that of the drawing“ |
| chapter 6.4 | INA modification level according to drawing of the product replaces by into „INA modification level according of the product „index of document package if it exists, otherwise that of the drawing“ |

2 General

The definitions and specifications described here for the supply of goods to the Schaeffler plants form the basis of our conditions of business and are valid as additional contractual agreements supplementing our general purchasing conditions.

2.1 Purpose of the Handbook

This handbook is intended to provide a simply structured, easily understood and practical guideline for packaging development and to give suppliers information about existing guidelines and specification in the area of packaging.

The purpose of the specifications described here is, by means of

- optimum packaging design,
- standardised dimensions for containers, cartons and transportation packaging,
- agreed contents quantities per packaging unit and
- correct and complete marking of packaging

to achieve problem-free materials flow between the supplier and INA and to prevent unnecessary repacking work.

2.2 Scope of the Handbook

This Packaging Handbook is valid for deliveries to the Schaeffler plants in Herzogenaurach, Gunzenhausen, Hirschaid, Höchstädt, Homburg, Ingolstadt, Kysuce, Lahr, Llanelli, Luckenwalde, Skalica, Brasov, TaiCang and Steinhagen.

The Packaging Handbook regulates the processes for the packaging of

- production parts and
- traded goods.

The packaging of DIN standard parts and of indirect process materials is covered in the same way by the specifications in the Packaging Handbook. However, no part-specific packaging datasheets are prepared in this case.

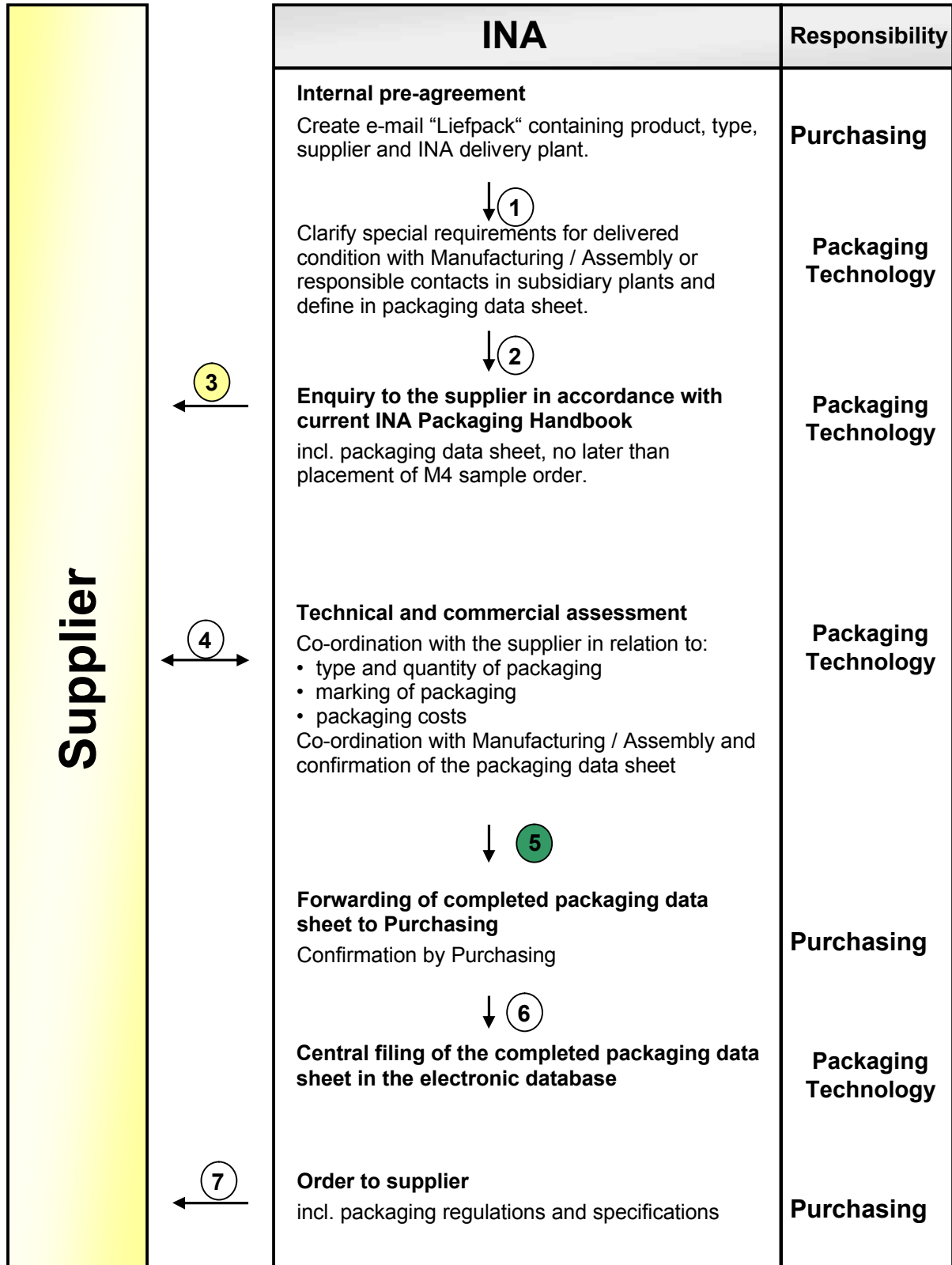
2.3 Contacts

The **Central Packaging Technology Development** department is located in Herzogenaurach. Contacts for packaging issues in the individual plants are as follows:

Plant	Packaging specialists	Telephone no.	E-mail
Brasov	Daramus, Monica	+40 (268) 505206	monica.daramus@schaeffler.com
Brasov	Persa, Claudia	+40 (268) 505193	claudia.persa@schaeffler.com
Großbritannien	Mock, Christopher	+44(1554)747760	chris.mock@schaeffler.com
Gunzenhausen	Braun Jochen	+49(9831)6786-265	jochen.braun@schaeffler.com
Herzogenaurach/ Handelsware	Hopfauer, Nina	+49(9721)91-2506	nina.hopfauer@schaeffler.com
Herzogenaurach/ Produktionsware	Waczenski, Klaus	+49(9132)82-2962	klaus.waczenski@schaeffler.com
Hirschaid	Kredel, Bernhard	+49(9543)68-549	bernhard.kredel@schaeffler.com
Hirschaid	Reichold, Winfried	+49(9543)68-247	winfried.reichold@schaeffler.com
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Höchstadt (HMF-S)	Kautnik, Matthias	+49(9193)80-424	matthias.kautnik@schaeffler.com
Homburg (ILH)	Kiefer, Frank	+49(6841)701-2128	frank.kiefer@schaeffler.com
Homburg (IWH)	Clemenz, Jürgen	+49(6841)705-1151	juergen.clemenz@schaeffler.com
Homburg (SWH)	Burkholder, Gerd	+49(6841)701-2228	gerd.burkholder@schaeffler.com
Homburg (SWH)	Schneider, Silvia	+49(6841)701-2416	silvia.schneider@schaeffler.com
Homburg (SWH)	Gries, Norbert	+49(6841)701-2438	norbert.gries@schaeffler.com
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Kysuce	Janis, Milan	+421(41)420 6462	milan.janis@schaeffler.com
Lahr	Gauch, Andreas	+49(7821)584-485	andreas.gauch@schaeffler.com
Luckenwalde	Zangl, Andreas	+49(3371)674-260	andreas.zangl@schaeffler.com
Skalica	Marchfeldova, Hana	+421(34)696-1438	hana.marchfeldova@schaeffler.com
Skalica	Bagova, Anna	+421(34)696 1436	anna.bagova@schaeffler.com
Steinhagen	Krueger, Brigitte	+49(5204)999-162	brigitte.krueger@schaeffler.com
TaiCang	Xu, Cheng	+86(512)53957817	cheng.xu@schaeffler.com

After the start of volume production, packaging matters are dealt with by the individual specialist departments in the manufacturing facility (contacts in planning) or the appropriate representative in the Purchasing department.

3 Procedure for packaging specification from enquiry to ordering



4 Packaging specifications and packaging requirements

4.1 Packaging specifications

For the packaging of Schaeffler purchased parts, there are two basic cases for packaging specifications:

1. Design of packaging by the supplier:

In this case, which generally applies to manufactured goods that are processed in Schaeffler plants, the packaging should be designed by the supplier in accordance with the guidelines in the sections

- 4.2 General packaging requirements,
- 5.2 Design of expendable packaging,
- 6.1 Marking of the despatch unit and
- 6.2 Marking of individual cartons and containers

In general, the supplier's own packaging is used.

2. Design of packaging by INA:

This variant is generally used in the following cases:

- Durable packaging of manufactured goods
Expendable or durable packaging of traded goods, i.e. products that are sold on by the Schaeffler Group.

The Packaging Technology Development department prepares a packaging specification for the specific part and this is presented to the supplier in the form of a packaging instruction and a packaging data sheet by Schaeffler Purchasing.

Where packaging is specific to INA the supplier can, after consultation with Purchasing, request this directly from the packaging manufacturer.

Schaeffler Purchasing only provides the supplier with packaging where small quantities are to be delivered. The supplier is responsible for requesting the required packaging from Schaeffler Purchasing and must do so in good time (15 working days before it is required) using a form (see Appendix 6). For small quantities, the quantity of packaging required is calculated on the basis of the current annual requirement.

4.2 General packaging requirements

In order to ensure delivery of parts in acceptable condition, compliance with the following points is absolutely essential:

- The parts must be free from all contamination.
There must be no contact with uncoated corrugated or solid board or with filler materials.
- The main packaging (container, carton) and any additional basic packaging (film, film bag, tubes, formed inserts, etc.) must ensure protection of the parts against
 - mechanical damage (e.g. deformation, impact points, etc.) and
 - corrosion.
- Due to the increased risk of injury, cartons must be closed not with metal staples but with adhesive tape.
- The despatch packaging must adequately secure the containers or cartons during transport and handling; in particular, the following must be ensured
 - specified pallet dimensions and designs,
 - modular dimensions of pallets, containers and cartons, based on half Europallet size 800*600 mm,
 - permissible handling and loading weights (max. gross weight for pallet load units = 500 kg),
 - 2 high stackability of load units.
- **Special regulations for individual plants: see section 5.2.2.1.**

4.3 Packaging requirements for traded goods

- For delivery of traded goods, only INA packaging may be used. The supplier's own additional packaging (e.g. adhesive strips) may only be used in a neutral form and after consultation with EBV. Supplier logos must be avoided in all cases for this type of packaging.
If in doubt, please contact the Central Packaging Technology Development department (contact name: see section 2.3).
- In the case of traded goods, delivery of excess quantities is always impermissible. Delivery of residual quantities is permissible only in exceptional cases and with the approval of Schaeffler Purchasing. In this case, INA Goods Inward must be informed in good time before arrival of the consignment.
- Closure of cartons
Cartons with base and lid closing flaps must be closed completely using a neutral adhesive strip (min. width 50 mm).
Cartons with an attached lid, e.g. INA standard folding cartons, must also be closed using a neutral adhesive strip (min. width 19 mm) at four points (2 x long side, 1 x each end face).
- For delivery of traded goods to ELGES (Steinhagen), the packaging must be agreed with the contact at this location (see section 2.3).

5 Design of packaging

5.1 Packaging data sheet and INA packaging instruction

In order to fulfil the packaging requirements, the packaging structure must be defined for each product.

This is defined in writing as follows

→ **in the INA packaging data sheet**

The packaging data sheet is sent to the supplier by Schaeffler Purchasing in accordance with the procedure in section 2 when new or modified packaging is defined and must be returned completed and authorised by the supplier **within 15 working days** to the Central Packaging Technology development.

The packaging is valid until rescinded **independent of changes to the modification level.**

When using

- durable packaging and or for
- traded goods

an **INA packaging instruction** is prepared by the Packaging Technology Development department at its discretion and sent to the supplier as an appendix to the packaging data sheet.

Explanations relating to the packaging data sheet are given in Appendices 1 & 2, explanations relating to the INA packaging instruction are given in Appendix 3.

The packaging design becomes legally binding as an agreement when it is signed by the supplier and authorised by the department Packaging Technology and by Schaeffler Purchasing. However, approval of packaging does **not** release the supplier from his responsibility for the delivery of undamaged parts.

If the packaging used by the supplier does not comply with the agreement, INA reserves the right to charge the supplier with repacking costs plus any handling costs incurred, with a minimum of € 130,-- per load unit.

Any variations for justified reasons (e.g. packaging prior to volume production for new production startups) must be agreed with the Central Packaging Technology Development department.

5.2 Design of expendable packaging

5.2.1 Permissible packaging materials

Material	Permitted materials	Prohibited materials
Composite materials		Composite materials are not permitted
Plastics in general		
Expendable	PE, PP, PS, PET Marking to DIN 6120	PVC, Styropor
Durable	PE, PP, PET, ABS Marking to DIN 6120	PVC, Styropor
Selected packaging made from plastics		
Cut blanks	PE	
Bags and sacks	PE	
Protective and insulating caps	PE	
Tubes	PE, PP, PS	
Formed inlays	PE, PP, PS, PET, ABS	
Cardboard and paper	Marked with RESY symbol	Wax, paraffin, bitumen or oil papers
Banding strip	PP, PET	Polyamide strip
Anti-corrosion paper	Only VCI paper that can be demonstrably recycled together paper/board (Brangs & Heinrich)	
Wood	solid wood to S121000-1 und S121000-2, Plywood	Particle board/pallets Impregnated, painted, coated wood
Filler materials	Corrugated cardboard, paper	Chips made from vegetable products Chips or moulded parts made from Styropor

5.2.2 Dimensions and masses

The expendable packaging must conform to the pallet module

→ 800*600 mm (e.g. INA pallet).

The external dimensions of the pallet must not exceed **max. 830 x 630 mm.**

Special regulations for individual plants: see section 5.2.2.1.

The permissible carton base sizes are therefore

- 800*600 mm
- 600*400 mm
- 400*300 mm
- 300*200 mm
- 200*150 mm.

If individual cartons are stacked on pallets, complete layers must be formed.

The height of the whole load unit must not exceed **max. 850 mm.**

The load units must withstand stacking two layers high without deformation or other damage.

Permissible methods for securing loads are:

- banding in conjunction with edge protectors,
- pallet carton with banding

The use of grid type boxes or other large transportation means such as steel containers is only permissible in exceptional cases and must be agreed with Central Packaging Technology Development.

The permissible mass of individual cartons must not exceed **max. 10 kg.** In exceptional cases, the gross mass of the carton can be max. 15 kg if a correspondingly stable carton is used.

The permissible gross mass of a load unit is **max. 500 kg.**

As an alternative to despatch on pallets, small quantities can be sent by packet; the permissible mass per packet is max. 30 kg.

Where mixed consignments are sent, a pick list must be included with the following information for each part type:

- item designation,
- number of cartons of the specific part type,
- quantity per carton.

4.2.2.1 Special regulations for individual plants

Plant	Permissible pallet module (in mm)	Maximum pallet height (in mm)	Maximum pallet mass (in kg)	Comments
Hirschaid	830 x 630	1.150	500	
	1.000 x 800	900	1.000	Steel pallet
	1.200 x 800	900	1.000	Euro pallet
Höchststadt	830 x 630	900	400	
	1200 x 800	900	800	Euro pallet
Homburg (IWH)	830 x 630	850	700	
Homburg (SWH/ ILH)	830 x 630	640	1.000	
	1.000 x 800	780	1.000	High racking pallet
	1.000 x 800	780	1.000	Steel pallet
Kysuce	1.000 x 800	750	1.000	Steel pallet
Lahr	830 x 630	870	1.000	
	1.000 x 800	870	1.000	Steel pallet
Llanelli	830 x 630	850	650	
Luckenwalde	1.200 x 800	1.000	700	Euro pallet
Skalica	830 x 630	1.000	500	
	1.200 x 800	1.000	1.000	Euro pallet
Steinhagen	1.200 x 800	850	1.000	Euro pallet

5.3 Design and use of durable packaging

5.3.1 Types of durable packaging

As standard, the VDA small durable container (KLT) system in accordance with DIN 30 820 and VDA Recommendation 4500 is used; these containers are standardised and can be held in a central storage facility.

For parts with large dimensions or problematic geometries, the following special durable packaging can be used:

- collars for durable pallets,
- stackable special containers (e.g. formed trays) with modular dimensions.

For semi-finished parts or parts which will directly enter the Schaeffler material flow, the black Schaeffler durable container (KLT) must be used. Particularly the modular R should be chosen. Only in two exceptional cases the using of the C-modular is allowed:

1. If you have a container gross weight between > 20 kg and < 50 kg
2. When using lifting aids specially modified for C-KLT for parts feeding during assembly

If for the packaging of semi-finished parts accessories like caps are needed, also black caps must be used.

Special regulations for individual plants: see Section 5.2.2.1.

Materials for durable packaging: see overview in Section 5.2.1.

5.3.2 VDA small durable containers and special containers

In principle, the durable packaging consists of the following components:

- durable container (KLT with accessories or trays),
- internal packaging,
- durable pallet,
- means for securing the load.

The following types of VDA KLT are used:

- R-KLT 3215 (300*200*147.5)
- R-KLT 4315 (400*300*147.5)
- R-KLT 6415 (600*400*147.5)
- R-KLT 6429 (600*400*280)

- C-KLT 3214 (300*200*147.5)
- C-KLT 4314 (400*300*147.5)
- C-KLT 6414 (600*400*147.5)
- C-KLT 4328 (400*300*280)
- C-KLT 6428 (600*400*280)

KLT lids are used in the following cases:

- closing of KLT's containing products requiring special protection.
Instead of a durable lid, it is possible to use expendable corrugated cardboard lids in accordance with INA standard N 158 580 or appropriate similar designs.
- for the despatch of individual KLTs.

Documentation on the KLT systems can be requested from the department Central Packaging Technology Development department.

Trays must conform to the dimensions 400*300 mm or 600*400 mm (length*width).

The supplier's own containers can only be used in exceptional cases where this is justified.

Agreement with and approval by the relevant INA contact is required in this case (see Section 2.3).

5.3.3 Internal packaging

For reasons relating to product protection or handling, internal packaging is required for a range of packaging applications in KLTs, transport cases or when using collars.

This can be

- durable or
- made from expendable packaging materials.

Durable internal packaging includes

- formed blisters or tubes made from plastic.

Expendable internal packaging includes, on a similar basis to expendable packaging

- formed trays made from plastic
- inlays or cut blanks made from solid board,
- film in the form of bags or cut blanks,
- anti-corrosion paper.

Decisions as to the necessity for internal packaging, its development and implementation are the responsibility of the supplier, although INA reserves the option to review these matters.

5.3.4 Despatch pallet

For reasons relating to logistics and mass in particular, INA generally uses durable packaging based on the pallet size **800*600 mm**.

If containers are stacked on pallets, complete layers must be formed.

The height of the whole load unit must not exceed **max. 850 mm**.

Special regulations for individual plants: see Section 5.2.2.1.

5.3.5 Securing of loads

The load can be secured on the pallet by means of

- a pallet cover (slip lid) and
- banding with plastic strip (twice or four times). (If a container (KLT) modul 32xx is used the length side of the pallet must be stripped four times)

VDA KLTs must also be secured on the pallet by means of a securing plate.

5.3.6 Design of durable packaging

When designing durable packaging, it must be noted that the permissible gross container mass is **max. 15 kg** and the permissible load unit mass is 500 kg.

On the same basis as expendable packaging, complete layers must be formed on the pallet. For smaller quantities, KLTs (closed by using a durable lid and banded with plastic strip) can be sent individually.

On the same basis as expendable packaging, mixed consignments must include a loading list with the following information for each part type:

- item designation,
- number of containers of the specific part type,
- quantity per container.

The various parts must be arranged on the pallet so that they can be easily identified; any exceptions must be agreed with the Central Packaging Technology Development department.

5.3.7 Procurement and quantities in circulation

- **INA durable packaging**
(e.g. durable pallets 800*600 with securing plate and cover as well as collar 800*600) and **durable packaging suitable for holding in central storage**
(e.g. VDA-KLT and lids) are purchased only by INA.
Recharging of the costs to the supplier is agreed on an individual basis.

Supplier's durable packaging is always purchased by the supplier for the complete cycle.

5.3.7.1 Calculation of the required quantity

In the case of general durable packaging, a cycle time of **36 working days** is generally assumed, comprising:

	Supplier		INA
Empty units in production store	5 working days		---
Production-related duration	2 working days		1 working day
Safety stock, full units	5 working days		10 working days
Safety stock, empty units	---		5 working days
Transport-related duration	3 working days		3 working days
Cleaning of empty units		2 working days (*)	

The number of load securing elements (e.g. securing plates and lids) is identical to the required number of pallets.

An **increase of 10 %** is applied to all calculated quantities to take account of packaging wear and loss.

5.3.8 Cleaning of durable packaging

Where suppliers have no facility for cleaning durable packaging, these can be provided in a cleaned condition. The cleaning costs incurred must be agreed bilaterally with the supplier. The plants in Lahr, Llanelli and Steinhagen are except from this regulation. In these cases, the supplier is always responsible for the cleanliness of the packaging.

Where the supplier's own packaging is used, the supplier must carry out the cleaning as required.

No durable packaging can be additionally marked, stickered, used for other purposes or brought into contact more than necessary with oils or greases.

Durable packaging which is marked, stickered or can no longer be cleaned must not be put in circulation.

5.3.9 Empty packaging freight costs

Unless other regulations apply, the freight costs for delivery of empty packaging must be agreed as follows:

- **deliveries ex works:** borne by supplier
- **deliveries carriage paid:** borne by INA.

5.3.10 Stock control

The basis for problem-free circulation of durable goods is stock control and administration of the durable packaging. In addition to any supplier stock control procedures, Schaeffler Group carries out EDP administration of durable packaging. The accounts are checked on a quarterly basis for Spedition Wormser and on a monthly basis in the case of Homburg (Plant SWH).

If requested by the supplier, Spedition Wormser can provide a current account statement.

Corrections can be made up to 14 working days after stock statements are issued. If no adjustment of accounts is made during this period, the account is taken as accepted and will be used as a basis for new purchases of durable packaging.

5.4 Packaging request

Responsibility for requesting the durable or expendable packaging required, where these are provided by Schaeffler Group, lies with the supplier.

The packaging must be requested by the supplier in good time (10 working days before required) from the relevant departments by means of a form (see Appendix 6).

The following must be noted

- **expendable packaging** must be requested via Schaeffler Purchasing
- **durable packaging** must be ordered from the contacts listed for the individual plants.

Contacts for ordering of durable packaging

Plant	External service provider	Contact	Telephone / fax	Comments
Herzogenaurach Gunzenhausen Hirschaid Höchstadt Ingolstadt Kysuce Luckenwalde Skalica	Spedition Wormser Herzogenaurach	Herr Denzlein	09132 / 903-303 09132 / 903-319	
Homburg (IWH)		Herr Clemenz Herr Vogel	06841 / 705-151 06841 / 705-45151 06841 / 705-261 06841 / 705-45261	Order processing and provision of packaging carried out within plant
Homburg (SWH)		Herr Schreyer	06841 / 701-2326 06841 / 70145-2326	Order processing and provision of packaging carried out within plant
Lahr		Frau Späth Herr Braun	07821 / 584-403 07821 / 584-451 Fax: 07821 / 584-163	Order processing and provision of packaging carried out within plant
Steinhagen		Frau Krüger	05204 / 999-162 05204 / 999-45162	Order processing and provision of packaging carried out within plant

Note: Durable packaging for purchased parts is not currently used at the Homburg plant (ILH).

6 Marking of packaging

6.1 Marking of despatch unit

Each despatch unit (pallet unit or despatch carton) must be marked using a VDA goods label whose content and design conforms to the VDA Recommendation 4902.

The following regulations for field allocation on the VDA goods label must be noted:

(8) Sachnr. Kunde:	INA material number* (e.g. 005760771- 0000)
(10) Bezeichnung Lieferung, Leistung:	INA short designation (e.g. SKFED F-230 757-1181)
(14) Änderungsstand Konstruktion:	INA modification level according of the product (index of document package if it exists, otherwise that of the drawing) (e.g. "a")

A completed VDA goods label is shown in Appendix 5 as a sample.

The attachment of adhesive items to durable packaging is not permissible. If necessary, label carriers made from corrugated cardboard can be used; these are placed under the banding strip.

*** Due to the introduction of SAP, a 13 digit INA material number (previous designation: INA item number) will be used with immediate effect.**

The nine digit "item number" (without a hyphen) will be expanded by the addition of "- 0000" (xxxxxxxx-0000). Traded goods have additionally to the 13 digit number a 2 digit packaging number ("Bezugszahl", i.e. xxxxxxxx-0000-10).

6.2 Marking of individual cartons and containers

The label must contain the following information:

- INA material number (traded goods 15 digits, production goods -13 digits)
- quantity
- short designation with INA modification level according of the product (index of document package if it exists, otherwise that of the drawing) →
- production date
- batch number

Suppliers of traded goods who have no facility for printing on Schaeffler labels can request preprinted Schaeffler labels via Schaeffler Purchasing. On these labels, the supplier must add the modification level after the short designation by hand and the production date and batch number by means of a date stamp.

In principle, labels must be inserted into KLTs. No labels of any sort may be stuck to the KLT.

6.3 Marking of INA tote tins

Where INA tote tins are used, these must be marked using a route card fixed to the handle of the tin.

The following information must be entered:

- INA material number (13 digits)
- quantity
- short designation with INA modification level according of the product (index of document package if it exists, otherwise that of the drawing)
- production order number
- process operations carried out
- next process operation
- comments on machining status

6.4 Delivery note

The Schaeffler modification level according of the product (index of document package if it exists, otherwise that of the drawing) must also be noted on the delivery note.

Where durable packaging is used, the packaging must be indicated as an appendix to the delivery note as follows:

Example:

Packaging designation	Packaging material number	Packaging Quantity
VDA-KLT 4314	002 628 988-0000	20

The INA packaging designation and the associated packaging material number are given in the INA packaging instruction (see also Appendix 3).

The freight liable mass and the charge number must also be stated in the delivery note.

The delivery notes for the parts and durable packaging must not be sent separately.

7 Anti-corrosion protection of purchased parts

7.1 Required anti-corrosion agents and periods of effectiveness

Purchased parts that are prone to corrosion during transport or storage must be protected by the supplier using suitable anti-corrosion agents agreed with INA.

The anti-corrosion methods permitted by the Schaeffler Group department Production Chemistry are as follows:

KA 2 = anti-corrosion protection by immersion

KA 4 = anti-corrosion protection by spraying

KB 4 = anti-corrosion protection for mounting (parts lightly oiled)

KC 2 = dry anti-corrosion protection

If the anti-corrosion protection methods proposed by the Schaeffler Group are not used, compliance with the standard covering "prohibited substances" S 132030-2 must be ensured; this is available from Schaeffler Group Purchasing.

For **manufactured goods** (parts assembled at INA), dry anti-corrosion protection is generally used (= VCI paper) in conjunction with light anti-corrosion protection for mounting (= light oiling).

For **traded goods**, dry anti-corrosion protection can also be used.

In the case of parts for **export**, anti-corrosion protection by immersion or spraying (= oiling) is generally used for manufactured and traded goods.

If none of the anti-corrosion methods proposed by the Schaeffler Group are used, the supplier must ensure the following anti-corrosion periods:

- manufactured goods: 12 months
- traded goods: 36 months

Appropriate explanations and evidence must be documented by the supplier from M4 sample status onwards in the "Initial sample material inspection results sheet" and in the "process flow chart" or "production plan".

This can be, for example, in the form of a letter from the manufacturer of the anti-corrosion agent. Exceptional arrangements can only be made in agreement with the department Production Chemistry and must be documented on the INA packaging data sheet.

7.2 Contacts

If you have any questions relating to anti-corrosion protection, please contact Central Packaging Technology Development or the technical department **Production Chemistry** direct:

Contact	Telephone	Fax
Herr Richter	09132 / 82-3673	09132 / 82-45 3673
Herr Zaudtke	09132 / 82-4326	09132 / 82-45 4326

8 Appendices

- Appendix 1** Packaging data sheet (VDB)
- Appendix 2** Packaging data sheet, completed specimen with explanations, appendix to VDB
- Appendix 3** INA packaging instruction with explanations
- Appendix 4** Causes of defects in the delivery of purchased parts
- Appendix 5** VDA goods label for despatch labelling
- Appendix 6** Fax form: Packaging request
- Appendix 7** Storage of VCI paper

Appendix 1

SCHAEFFLER GRUPPE		Packaging Datasheet		LUK	INA	FAG
1. Product Data						
Product:						
Abbreviated designation						
Material No.:						
Supplier part no.:						
Weight/Part (kg):						
Annual requirement acc. to requ						
Delivery deadline of 1st volume						
2. Contacts						
	Supplier	Packaging Technology	Purchasing			
Supplier No.:						
Plant/Supplier:						
Location/Supplier:						
Contact:						
Telephone:						
Fax:						
E-mail:						
3. Preservation						
4. Packaging data						
	Transport packaging (VP)	Bulk packaging (SP)	Basic packaging (GP)			
Packaging material						
Dimensions L x W x H (mm)						
Fill quantity/unit						
Packing plan						
Tare weight (kg)						
Gross weight (kg)						
Basic packaging/SP						
Bulk packaging/VP						
Other packaging material						
Other packaging material						
Securing of load						
Photo/sketch						
5. Comments						
6. Signatures: (Automatically generated form, also valid without original signatures)						
Version	Date	Packaging Technology	Date	Supplier		

Appendix 2

Product information
(Type, Material-No.,
part mass, etc.)


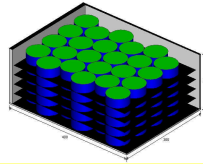
Supplier information
(location, contact,
telephone number, etc.)

Preservation

Packaging data,
Transport-, bulk-
and
basicpackaging,
(amount,
measures and
weight per
packagingstep)

Comment text
(additional
information on
packaging
structure, anti
corrosion
protection, etc.)

Confirmation fields
(packaging technologie,
supplier)

SCHAEFFLER GRUPPE		Packaging Datasheet		INA	
1. Product Data					
Product:	PAP				
Abbreviated designation	F-174 901				
Material No.:	001751760-0000				
Supplier part no.:					
Weight/Part (kg):	0,097				
Annual requirement acc. to requests (pc.):	200.000				
Delivery deadline of 1st volume production run	already in progress				
2. Contacts					
Supplier No.:	12345	Supplier	Packaging Technology	Purchasing	
Plant/Supplier:	XYZ-Supplier				
Location/Supplier:	12345, Sampletown				
Contact:	Mr. Samplesupplier	SP/SWE-EBV / Ms Junghans	SZ/HZA-SM1/ Mr. Honer		
Telephone:	Tel 0123 / 345673	09721 / 91-4208	0049(9132)82-2131		
Fax:	Tel 0123/ 3456789	09721 / 91-3839	0049(9132)82 45-2131		
E-mail:	sampleman@xyz.de	Daniela.Junghans@schaeffler.com	michael.honer@schaeffler.com		
3. Preservation					
Not required	-				
4. Packaging data					
Packaging material	Transport packaging (VP)	Bulk packaging (SP)	Basic packaging (GP)		
Dimensions L x W x H (mm)	Durable pallet 800x600x830	VDA-RL-KLT 4314 400x300x147,5			
Fill quantity/unit	2400	120			
Packing plan	Stacked	6 rows of 4 (24x5)			
Tare weight (kg)	20	0,570			
Gross weight (kg)	240	11,1			
Basic packaging/SP	-	-			
Bulk packaging/VP	20	-			
Other packaging material	PE-foil bag	Polyethylene bag			
Other packaging material		Cut millboard			
Securing of the load	Strapping - lengthways				
Photo/sketch					
5. Comments					
fill out the KLT with the foilbag and put in the parts like scheme.					
6. Signatures					
-2146826273					
Version	Date	Packaging Technology	Date	Supplier	
1	24.09.2009	Daniela Junghans	26.09.2009	XY-Sampleman	

Explanations for completed specimen "INA packaging data sheet":

1. Basic packaging (GP):

- In this sample, no basic packaging is needed

2. Main packaging (SP):

- 120 parts in VDA-C-KLT 4314 lined with a gusseted satchel bag.
- Dimensions of SP: 400 x 300 x 147,5 mm
- Gross mass of SP: 11,1 kg
- Tare mass of SP: 0,57 kg

3. Despatch packaging (VP):

- 5 layers of 4 containers stacked
- Pallet cover lid laid on pallet
- Securing of load by plastic banding strip
- Stackability of pallet during transport: 2 high
- Dimensions of VP: 800 x 600 x 830 mm
- Gross mass VP: 2400,0 kg
- Tare mass of VP: 20 kg (packaging only, excl. mass of parts)
- Marking of packaging in accordance with N 030 070

Appendix to packaging data sheet

For different types with the same packaging, only one packaging data sheet should be completed. The variable values, such as type designation, mass etc. are entered in the appendix (see Appendix on the next page).



Appendix to packaging data sheet

Typen bezeichnung	INA Sachnummer	Lieferanten- teilenummer	Teilegewicht (kg)	Teile/ Versand einheit	Bruttogewicht/ Versandeinheit (kg)	Teile/ Sammel packung	Bruttogewicht/ Sammelpackung (kg)	Teile/ Grund packung
Beispiel: F- 87 130-150	003-128-482		0,0100	12000	135	1000	10,5	100

Appendix 3

INA packaging instruction in SAP system

Lieferantenvorschrift		
Packvorschrift - 050025600000010GP		
Material: 050025600-0000 F-347413-0071 STAT		
Ersteller:	Kredel, Bernhard	Herstellwerk: 0007
Telefon:	Segment: 031100	
PV erstellt am: 10.02.2005		
Allgemeine Angaben:		
Verpackungsart:	FORM 146344 -1,0-A-PET-GLASKLAR-FUER-STA	
Menge / Einheit:	6 ST	
Produktlagerungsart:	Liegend	
Verkaufsfähigkeit:	nein	
MIPS-Bezugszahl:		
Umpackfähigkeit:	ja	
Produktgewicht:	213,000 G	
Taragewicht:	75,000 G	
Bruttogewicht Packstück:	1.353,000 G	
Abmessungen Packstück:	0,000	
Packmittelstückliste:		
Sachnummer	Menge	Packmittel
012416754-0000	1 ST	FORM 146344 -1,0-A-PET-GLASKLAR-FUER-STATOREN-FA
Bemerkungen zum Verpackungsaufbau:		
Produktendkonservierung:		
KC2 - VCI-Papier		
Kundenreferenz:		
Beschreibung des Abpackprozesses:		
AUFBAU DER VERPACKUNG:		
-TEILE IN EINWEGFORM LEGEN UND IN KLT STAPELN		
-EINWEGFORM KANN IN HIRSCHAU BESTELLT WERDEN		
DIE VORSCHRIFT WURDE FÜR FOLGENDEN LIEFERANTEN ANGELEGT: FA. SSF.		
BEI RÜCKFRAGEN BITTE DIE ABTEILUNG PAA3(TEL. 247) ANSPRECHEN.		
BEMERKUNG FÜR EBY: DER VORGANG WURDE ÜBERARBEITET (V. REICHOLD)		
Verknüpfte Dokumente:		
Gültigkeitsvermerk: gültig ab 10.02.2005 Letzte Änderung am 15.02.2005		
gültig bis 31.12.9999 Reichold, Winfried		
Druckdatum der PV: 15.02.2005 Reichold, Winfried		

Seite 1

INA packaging instruction in MIPS system

①	③ ④ ②	⑤	⑥	⑦
MINF Information	DVPA Verpackungsanweisung		D DEM	MEZ U022764
-----Verpackungssteuerung-----		916--14.01.1999-17:31	07	
009 238 999 0000	NWGV F-347002.5/A	52,6x30x57	Wk 60/61	
B/Sonderausf./Verkaufsteil			Di 288	
Bz Vg Ve	Mge Vpa	La Up	Gewicht/1	Gewicht/Bz
06 W Sammelpackung	54 KLT-Behae	0,3433	23,5742	

⑧	⑨ ⑩	⑪
Sach-Nr	Mge Hinw Pd	
001-011-227	1 St W	KLT-DECKEL N 158575 -VDA-D64-BLAU 600X400
001-043-757	1 St V	FALTENBEUTEL N 158908 -C25 470X320X520
002-098-709	1 St W	KLT-SYSTEMBEHAELT.N 158570 -VDA-6428-BLAU 600X40
009-557-180	1 St W	FORM-DECKEL-MEHRWEGFORM (DECKEL)-FUER F-347002

Bemerkung

== 1 KLT-Behae (Sammelpackung) = 2 X Form (Grundpackung) ==

AUFBAU DER VERPACKUNG:

- KLT MIT EINEM SEITENFALTENBEUTEL AUSSCHLAGEN.
- ETIKETTIERUNG DER SCHACHEL MIT EINEM INA-ETIKETT NACH N 030 070

(SIEHE AUCH: VERPACKUNGSHANDBUCH, AUSGABE 1999).

Explanations:

- 1 INA material number
- 2 INA short designation
- 3 Quantity per packaging unit
- 4 Type of packaging, e.g.
 - Carton
 - KLT container
 - Bag
 - Pallet
- 5 Type of storage for parts, e.g.
 - Stacked
 - Loose
- 6 Mass of parts
- 7 Gross mass of packaging unit
- 8 List of packaging and associated INA packaging material numbers
- 9 Quantity per package
- 10 Unit, e.g.
 - St = pieces
 - cm = centimetres
 - gr = grams
- 11 Packaging designation
- 12 Additional comments on packaging structure

Appendix 4

Verpackungshandbuch N 158 001

Ausgabe: Januar 2001

Causes of defects in the delivery of purchased parts

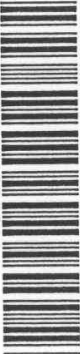
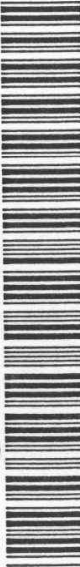





Description	Defect / problem	Explanation
Labelling, general	Labelling of pallets	The despatch unit is always marked by means of a VDA goods label.
	Item number of drawing level missing	The INA item number has 13 digits (xxxxxxx-0000), the drawing level is in the legend of the order drawing ("x"). Both notations must be given on all labels.
	Production date missing	The production date and batchnumber is used to product traceability and must be given on the labels.
Labelling of traded goods	Incorrect positioning	Marking of packaging is described in INA standard N 030 070.
Handling weights	Permissible handling weights are exceeded	The handling weights given in the Packaging Handbook for cartons, KLTs, pallets, etc. must be observed.
INA standard folding cartons	Incorrect folding of carton	When erecting a folding carton with a self-locking base, it must be ensured that the inner side flaps are positioned vertically downwards.
Delivery quantities	Deviation from order quantity or specification in packaging data sheet	The order quantities are binding. Deviations must be agreed with the relevant buyer.
Packaging request	How is request made?	The packaging request is made using a fax form.
	Request for expendable packaging	The packaging request must be sent to the relevant buyer.
	Request for durable packaging	The packaging request must be sent to the carrier Wormser or to the relevant contact in the plant.

Sources of defects in the supply of purchased parts			
Description	Defect/problem	Explanation	Reference in Packaging Handbook
Packaging datasheet	Supplier confirmation missing	The packaging datasheet must be confirmed in writing by the supplier within 15 working days.	Section 4.1
	Datasheet not completely filled in by supplier	The packaging datasheet must be filled in by hand or electronically by the supplier and returned to the Packaging Technology department.	Appendices 1 - 3
Despatch packaging	Incorrect pallet modulus	The pallet modulus to be selected is specified in a binding sense in the packaging datasheet.	Section 3.2 Section 4.2.2 Section 4.2.2.1
	Contamination of and damage to cartons, especially for traded goods	The despatch packaging must be selected such that contamination of and damage to the cartons is prevented.	Section 3.2
	Loads not secured sufficiently	The means of securing the load must be selected such that the despatch unit will survive the handling and transport processes without damage.	Section 3.2 Section 4.2.2 Section 4.3.5
Closing of cartons	Cartons are not glued	Cartons must be closed using a neutral adhesive strip.	Section 3.3



Appendix 5

VDA – Warenhänger zur Versandetikettierung

<div>(1) Warenempfänger INA Werk Schaeffler oHG Industriestr. 1 - 3 D 91074 Herzogenaurach (3) Lieferschein-Nr. 2024937 </div>	<div>(2) Abladestelle-Lagerort-Verwendungsschlüssel (4) Lieferantenanrichtf.Kurzname, Werk, PLZ, Ort Scherdel 95615 Marktredwitz (5) Gewicht netto 160 (6) Gewicht brutto 190 (7) Anzahl Packstücke 20</div>
<div>(8) Sach-Nr. Kunde 005760771-0000 </div>	<div>(10) Bezeichnung Lieferung, Leistung SKFED F-230757-1181 (11) Sach-Nr. Lieferant 26951A1 </div>
<div>(9) Füllmenge 20000  (12) Lieferanten-Nr. 00003589 </div>	<div>(13) Datum D 22121998 (14) Änderungsstand Konstruktion "a" (16) Chargen-Nr. 981222 </div>
<div>(15) Packstück-Nr. 7117374 </div>	<div>(17) Technische Federn Warenanhänger VDA 4902, Version 4</div>



Appendix 6

Fax - Packaging request

To:

Faxnumber:

From:

(Bitte hier die Lieferanschrift eintragen)

Please send us the following durable packagings:

designation	item number	dimensions	amount

Please send us the following expendable packagings:

designation	item number	dimensions	amount

Packaging application

F-

Empties will be collected by the supplier

yes / no

Name:

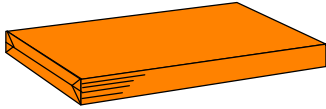
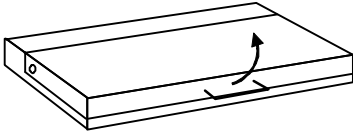
Tel.-Nr.:

Date

Appendix 7

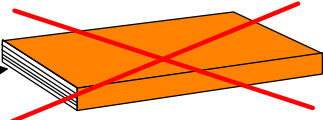
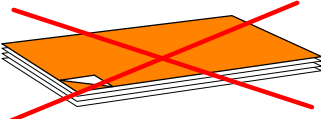
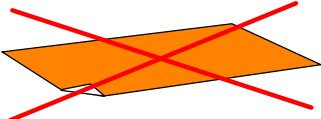
Storage of VCI paper Grades: S5, S48, B5, B48, L, KML and Z



Type of storage	Storage period
1  Closed intermediate packaging (e.g. 100 sheets shrink wrapped in film)	max. 24 months (from date of manufacture!)
2  Closed box	

In order to achieve the maximum shelf life of the VCI paper once opened, it **should** be stored in a **closed** intermediate package or box.

When removing paper from the box, it should only be left open **for a short period!**

3  Opened intermediate packaging (e.g.: film opened at side)	Avoid !	max. 4 weeks (from opening or removal!)
4  Open stack	Avoid !	max. 2 weeks (from opening or removal!)
5  Single sheet	Avoid !	max. 1 week (from opening or removal!)

Avoid storage as opened intermediate packaging, open stack or single sheet! The guide values specified for these cases must be observed.

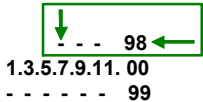
Caution: If the maximum permissible storage time is exceeded, consult the department Tribology (IWS-QWC) in relation to the continued usability of the VCI paper.

- _____ The specifications above are valid only if the following storage conditions are observed
- Goods must not be left outdoors
 - Relative humidity <65%
 - No influence of chemical agents (vapours, gases)
 - 0° C > T < 40° C

Representation of the date of manufacture on the VCI paper

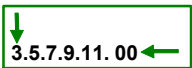
The manufacturer produces VCI paper at 2-monthly intervals, so the marking 1.3.5. etc. i.e. January - März - May etc. was selected. Lines are selected for the year numbers. **Examples:**

Example 1



This gives the date of manufacture:
July/August 1998

Example 2



This gives the date of manufacture:
March/April 2000

Date: VCI-Papier.ppt

Stand: 01.01.22