



BRIGHT MINDS,  
BRIGHT LIGHTS.



## **Packaging Guideline for Suppliers of**

**ZKW Lichtsysteme GmbH,  
ZKW Slovakia s.r.o.,  
ZKW Lighting Systems (Dalian) Co., Ltd.,  
ZKW México S.A. de C.V.**

VERSION 15 - AS OF 2024

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## **OBJECTIVES OF THE PACKAGING GUIDELINE FOR SUPPLIERS**

This document aims to communicate the packaging guidelines to the suppliers involved in a cooperative manner from all companies mentioned below:

ZKW Lichtsysteme GmbH, ZKW Slovakia s.r.o., ZKW Lighting Systems (Dalian) Co., Ltd.,  
ZKW México S.A. de C.V.

Its purpose is to standardize and limit the types of packaging used.

An optimized packaging design as well as standardized dimensions and loading units aim to ensure the quality of the delivered articles and prevent additional efforts.

This guideline is in effect and supersedes all previous versions.

## 1 List of abbreviations

|           |  |
|-----------|--|
| 6M-SOP    | 6 Months after Start of Production   |
| AKL       | Automatic Small-parts Warehouse  |
| ASN       | Advanced Shipping Notice   |
| DIN       | Deutsches Institut für Normung (German Standardisation Organization)   |
| EDI       | Electronic Data Interchange  |
| EN        | European Standard  |
| EPP       | Expanding Polypropylene  |
| ESD       | Electrostatic Discharge  |
| EW        | Einweg - Disposable  |
| ID        | Identification   |
| IPPC      | International Plant Protection Convention  |
| ISPM      | Internationaler Standard für Pflanzengesundheitliche Maßnahmen für Verpackungsmaterial aus Holz im internationalen Handel (International Standards for Phytosanitary Measures) |
| IV-System | Information Processing System  |
| LAB       | Delivery Schedule  |
| LGP       | Logistics Planning   |
| MW        | Mehrweg - Reusable   |
| PE        | Polyethylene   |
| PP        | Polypropylene  |
| PPS       | Production Planning System   |
| PS        | Polystyrene  |
| SCM       | Supply Chain Management  |
| VDA       | Verband der Automobilindustrie (German Association of the Automotive Industry)   |



## 2 Introduction

This guideline was developed to standardize the number of packaging types, to limit the increasing number of variants, to minimize the associated freight costs at the different sites, including the modes of transport, and to adapt these to local market conditions.

In conjunction with standardized dimensions and coordinated quantities in every loading unit, an optimized design and selection of containers and packaging is aimed at pursuing the following goals:

- Ensuring article quality
- Compliance with cleanliness standards
- Prevention of the loss of cargo space
- Ensuring economically feasible storage
- Minimizing the order picking efforts
- Minimizing the handling efforts
- Consistently using the containers delivered right through to the assembly line
- Minimizing the increasing number of diverse packaging

Irrespective of the chosen packaging type, the supplier must meet the following requirements:

- Avoidance of an in-transit loss of quality
- Creation of economic loading units
- Compliance with ZKW's cleanliness requirements
- Optimum utilization of containers
- Securing the loading units in transit
- Ensuring stackability
- Compliance with the specified standard dimensions
- Handling-friendly parts removal (especially in the case of special parts, the position in which they must be placed in the packaging, e.g. electronic components)
- Use of recyclable packaging material
- Preferential use of reusable packaging with lids
- Reduced use of disposable packaging materials
- Ensuring sustainability requirements.

### 3 Packaging

#### 3.1 General

A distinction is made between reusable (MW) and disposable (EW) packaging depending on the supplier and ZKW location (see table below):

|          |         | Supplier site |      |         |        |
|----------|---------|---------------|------|---------|--------|
|          |         | Europe        | Asia | America | Others |
| ZKW site | Europe  | MW            | EW   | EW      | EW     |
|          | Asia    | EW            | MW   | EW      | EW     |
|          | America | EW            | EW   | MW      | EW     |

##### 3.1.1 Material selection

Abrasion resistance is the most important criterion for material selection with the aim of avoiding particle emissions (preferred materials are PE and PP)!

- Do not use packaging made of cardboard, wood, polystyrene, corrugated cardboard, compressed wood chips or similar materials.
- Pallets to be made of plastic (except for overseas transport)
- Do not use any additional padding or cushioning material (such as polystyrene flakes,...).
- Use plastic films, plastic nonwovens, waterproof films, plastic trays, bubble wrap, foam or equivalent as interlayers.

To ensure consistent ESD protection (from the supplier to ZKW), ESD- compliant packaging must generally be provided for electronic components. Contact Project Purchasing and Quality Engineering to discuss any non-conformities.

EPP trays and thermoformed trays must be designed in such a way that EPP and thermoformed lids can be used, which are ZKW Standard lids (4.3 Catalog of standard ZKW packaging containers for packaging provided). ZKW will provide the technical details of box lids needed to design the corresponding containers.



### 3.1.2 Size and weight selection

The top priority when selecting the size of containers is to utilize preferably 100% of the loading volume while considering the max. gross weight (see below) and the batch size agreed on with ZKW depending on the average monthly requirement (4.2 Link to packaging datasheet).

Please note that **every** box must be provided with the right lid → 4.3 Catalog of standard ZKW packaging containers for packaging provided

In order to avoid packaging waste wherever possible, the packaging volume and weight should be reduced to the absolute minimum required to protect the goods. Reusable packaging further minimizes the waste of materials.

For the above reasons, reusable packaging should always be given preference. The proportion of disposable packaging materials shall be kept at a minimum. Sustainable recycling of reusable and disposable packaging materials must be ensured. In order to meet the requirements of the Packaging Regulation and to avoid unnecessary burden on the environment, only environmentally compatible materials are to be used and the statutory provisions are to be complied with.

Repackaging and handling efforts are to be avoided, therefore the container delivered should support automated storage and withdrawal for supply at the assembly line. Therefore, the following standard dimensions of loading units (including the pallet and pallet cover) must not be exceeded:

AT, SK, CN: L x B x H[mm]: 1200x800x1100

MX: L x B x H[mm]: 1200x800x950

Also consider the following weight limits:

- The maximum gross weight for small load carriers is 15 kg (except all load carriers with size of 400x300 mm).
- The maximum gross weight for load carriers 400x300 mm is 14 kg.
- The maximum gross weight of large load carriers (including pallet) is 500 kg.

Refer to section 4.3 Catalog of standard ZKW packaging containers for packaging provided for standard container sizes.

Already in the RFQ phase (initial offer), the supplier is required to take into account the specifications according to the packaging guidelines when selecting the type of packaging with regard to material, size, weight, degree of filling, etc. If, after nomination of the supplier, it turns out that the offered packaging, which among others, is the basis of the award of contract, does not comply with the packaging guideline of ZKW, the supplier shall bear the costs for this.

The supplier must allow for simple changes in packaging up to 6M-SOP (e.g., from large to small AKL container, from small folding box to large AKL container, or from large to small folding box, etc.) without additional costs.

### 3.1.3 Container filling

Only one part number may be placed in a container. Please note that this includes the delivery of left and right parts in separate containers.

When using inner packaging (blisters, trays, compartments, etc.), the height must be selected so that the container is completely filled (i.e. the height of the individual layers must be adapted to the max. inner height of the container). This is to ensure optimum protection of the parts. Delivery of sorted material is standard and also defined in the packaging data sheet. A delivery of small-volume quantities shall be agreed on separately.

### 3.1.4 Container marking and labeling

In case the supplier provides packaging not owned by ZKW, the supplier must clearly and obviously mark the packaging with an ownership mark. ZKW will be unable to ensure a proper return if there is no clearly recognizable property marking.

Containers owned by ZKW are clearly marked with "Property of ZKW" as well as a container number. The unique code for any kind of reusable packaging developed by supplier is created by ZKW and is sent to supplier directly after the single packaging item has been approved (after sending the drawing including dimensions and weight of packaging item). The supplier is then required to mark this packaging with this code in a visible place.

In order to avoid confusion of parts in the process, each container and/or the transport unit must be marked with a goods tag (with barcode) for identical parts in accordance with VDA 4902 version 1.3 (June 2021). The following information must be affixed to the goods tag from the first delivery onwards:

- Goods recipient (attention of xxx)
- ZKW unloading site
- Delivery note number (plain text and barcode)
- ZKW part number (plain text and barcode)
- ZKW designation
- Content capacity (plain text and barcode)
- Batch number (plain text and barcode)
- Supplier number (plain text and barcode)
- Date
- Design revision date (index)

The size of the label may vary depending on the packaging size. The following list shows the possible label dimensions based on packaging size:

- A5 210 mm x 148 mm → Only used for pallets, not for containers
- A6: 152,4 mm x 101,6 mm bzw. 148 x 105 mm
- KLT1: Label for small load carriers (KLT) 210 mm x 74 mm
- KLT 2: label for flat packages 210 mm x 42 mm

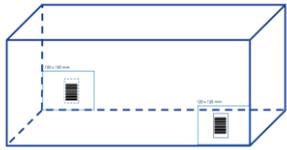
Every container must have a legible label on it, either in a pouch or in a fixture designed for this purpose. Metal rods or clips to attach the labels to the container are not permitted. VDA adhesive dots may also be used to securely attach the labels to the containers. Adhesive labels must not be used. All old labels (such as the customer-internal inspection notes, VDA goods tags or equivalent) must be removed by the supplier before loading the empty goods. Please refer to 4.3 Catalog of standard ZKW packaging containers for packaging provided to know the specified location of labels on a container. For easy identification during goods receipt, the label should also be visible when the packaging is stacked. Furthermore, it must be ensured that no container IDs (barcode) are covered by the label in order to guarantee the scanning process.

**Exception ZKW Slovakia s.r.o.:** All supplier labels must be firmly and completely attached to the packaging with a non-invasive adhesive surface or attached by means of adhesive dots without leaving any space between the packaging unit and the label.

### 3.1.4.1 Fixed barcode labels

**Exception ZKW Lichtsysteme GmbH and ZKW México S.A. de C.V:** Due to the fully automated warehouses in Wieselburg, AT and Silao, MX and in order to ensure automated parts identification, all containers must be provided with at least two barcode labels. These barcode labels are in addition to the standardized VDA label (mentioned above). Thus, all ZKW containers are provided two or in some cases four labels by ZKW, which must not be removed or pasted over under any circumstances. Unless otherwise agreed, no activities are required from the supplier.

The following table shows the details of the labels as well as their content and positioning.

|  |  |   |
|--|--|---|
|   |   |    |
| <p><b>standard label</b><br/>width: 40 mm<br/>height: 50 mm<br/>code type: C128 [C]<br/>content: 2 digits container type, 6 digits index</p> | <p><b>label for low containers</b><br/>width: 40 mm<br/>height: 20 mm<br/>code type: C128 [C]<br/>content: 2 digits container type, 6 digits index<br/>installation: if the height is less than the standard label</p> | <p><b>container positioning</b><br/>twice per container<br/>adhesive area: 120x120 mm on the longitudinal side of the box</p> |

Regardless of the container type, the barcode label is always on the two long sides or in the case of quadruple labeling, then on long and shorts sides.

**Exception ZKW Slovakia s.r.o.:** The barcode labels are always placed on two opposite sides, depending on the container type, the labels are placed on the long or short sides of the container.

Due to different positions of the barcode labels between Wieselburg and Krusovce, it can be possible to have up to six barcode labels on containers. No barcode labels must be removed or pasted over under any circumstances. Furthermore, the supplier must make sure that these barcodes remain visible when placing the VDA-labels on the boxes.

### 3.1.5 Cleaning

The supplier is responsible for filling clean and dry containers only.

Generally, reusable containers must not be lined with plastic bags. Exception: Reusable containers used for greased articles must be lined with a plastic bag in order to avoid contamination, or special containers must be used that are only approved for the transport of these products. The supplier shall procure these PE bags and will not be provided by ZKW.

Production in "dust reduced" environments calls for special cleanliness requirements for the components to be processed. The specific standards defined for this purpose must also be met by purchased parts.

In these cases, it should be noted that the suppliers' production processes must ensure that the components are never exposed to dust or dirt at any time that might reduce the quality. If this proves to be impossible, the supplier must take appropriate protective and preserving measures (by selecting and designing the packaging with storage and transport in mind).

In order to meet this situation in the best possible way, it is necessary to define and specify the packaging for each article depending on the required level of cleanliness. Load carriers are provided and/or shipped in cleaned conditions. In case load carriers fail to meet the quality requirements of the material transported in them, the supplier must carry out further cleaning measures at his own expense (e.g. washing or wiping out the container, ...).

### 3.1.6 ESD packaging and corrosion protection

ESD is short for "Electro Static Discharge". It is caused by the exchange of charge between two bodies with different voltage potentials. The warning symbol for components at risk of ESD (see appendix) must be stuck or embossed on the packaging so that it is clearly visible. ESD can cause invisible damage to electronic components.

Note that all elements of the packaging (containers, boxes, trays, cover, interlayers, etc.) that might come into contact with electronic components as well as the load carriers in which they are transported must be antistatic and conductive.

**Exception ZKW Slovakia s.r.o.:** In case of an ESD special requirement – pallets and lids would need to be antistatic and conductive.

In order to guarantee continuous protection, the entire loading unit (including the carrier for electronic parts) must be packaged in a conductive manner. Each individual packaging component must be marked accordingly with the ESD hazard warning in conformity with DIN EN 61340-5-1:201707 Hazard warning sign for ESD susceptible parts on it.



Conductive materials are divided into four categories:

**Shielding materials (less than  $10^3$  Ohms)**

These materials act like a Faraday cage by completely preventing or attenuating the passage of current. Most shielding materials contain a conductive metal or carbon element; this is also specified as the preferred solution for the packaging of individual prints.

**Conductive materials (between  $10^3$  and  $10^5$  Ohms)**

They have a low resistance and therefore ensure that the charge is dissipated quickly. They are specified for most electronic components such as prints transported in multipack blisters.

**Dissipative/antistatic materials (between  $10^6$  and  $10^{11}$  Ohms)**

These materials equalize differences in potential within a relatively short time. They are well suited for components already containing electronic parts, thus improving their protection.

**Insulating materials**

They feature a high surface resistance of no less than  $10^{12}$  Ohms and are difficult to ground. Static charges will remain in one place of these materials without any dissipation.

Long shipping and provisioning times under extreme fluctuations in temperature and humidity can cause serious corrosion damage, particularly in overseas containers. International shipments must therefore take appropriate measures for corrosion-protection.

## 3.2 Reusable packaging

### 3.2.1 Provisioning of packages

In cases where ZKW has agreed on to provide the packaging, the packaging volume will be specified and purchased as agreed in the packaging datasheet, based on lot sizes, safety stocks and shipping time. The agreement to provide the supplier with packaging shall only apply for circulation between ZKW and the supplier, but not for the supplier's internal use or for third parties (sub-suppliers). If delivery is not possible in the defined packaging, this must be agreed with ZKW in due time.

For purchased parts (e.g., electronics), the supplier develops the packaging and is thus also responsible for ensuring that the parts supplied suffer no loss of quality due to the packaging.

If the supplier is responsible for packaging development and procurement, the supplier must coordinate this with the person responsible for packaging planning of ZKW as follows:

### Process of packaging alignment and procurement (development of packaging concept by supplier)

| Step | Activity   | Responsibility Supplier | Responsibility ZKW |
|------|--|-------------------------|--------------------|
| 1    | Forwarding CAD data  |                         | X                  |
| 2    | Development of packaging concept   | X                       |                    |
| 3    | Alignment of packaging concept   | X                       | X                  |
| 4    | Announcement of loading carrier ID (must be visible on the packaging)              |                         | X                  |
| 5    | Approval of packaging concept  |                         | X                  |
| 6    | Handover of samples (2 pieces)   | X                       |                    |
| 7    | Validation and approval  |                         | X                  |
| 8    | Fill Packaging Data Sheet (base for purchase of series quantity)                   | X                       |                    |
| 9    | Approval of Packaging Data Sheet   |                         | X                  |
| 10   | Supplier provides planned procurement quantity of packaging for series production  | X                       |                    |
| 11   | Validation and approval of procurement quantity of packaging for series production |                         | X                  |
| 12   | Procurement of series quantity   | X                       |                    |
| 13   | Transmission of delivery notes of packaging quantities                             | X                       |                    |

The planned procurement quantity must be coordinated by the supplier with the GPC responsible for the project (10-11), whereby the quantity may not exceed that in the packaging data sheet. Only after approval by the GPC may the order for packaging procurement be triggered.

The supplier is obliged to send the delivery notes (13) of the delivered serial quantity(s) immediately and without request to:

|  |  |
|--|--|
| <b>ZKW Lichtsysteme GmbH</b>                   | GPC (project dependent)<br>Packaging-development@zkw.at<br>Packaging-management@zkw.at |
| <b>ZKW Slovakia s.r.o.</b>                     | Lucia.Masarykova@zkw.sk<br>packagingdisponents@zkw.sk                                  |
| <b>ZKW Lighting Systems (Dalian) Co., Ltd.</b> | GPC (project dependent)  |
| <b>ZKW México S.A. de C.V.</b>                 | Daniel.Vega@zkw.mx   |

without delay. This serves to ensure correct management of the packaging material accounts in the interest of both parties.



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In case ZKW does not provide either outer or inner packaging, the supplier is required to use the packaging according to ZKW-owned container dimensions. (see 4.3 Catalog of standard ZKW packaging containers for packaging provided).

The demand of reusable containers, which is based on the existing delivery schedules, can be requested maximum 14 days in advance and it must be requested at least 7 days in advance from the ZKW container management. The maximum requestable packaging quantity provided by ZKW is specified in the supplier packaging data sheet.

Any excess product-specific load carriers in the process (average daily pieces to peak amount) must be buffered at the supplier (except packaging which is provided by ZKW – see 4.3 Catalog of standard ZKW packaging containers for packaging provided). The ZKW container management must be informed if there are no forecast figures for components in these load carriers. From this point on, the load carriers must be stored by the supplier under the mentioned conditions.

The supplier shall not misuse the empties for covering their internal production circulation or circulation with sub-suppliers and shall not keep a stock in excess of the currently scheduled delivery.

In order to keep track of the circulating containers in the container accounts as well as the additional reusable packaging materials (e.g. interlayers, plastic lattices, ...), it is mandatory that the shipping documents state the type and quantity of empties in every delivery to ZKW. The supplier must check the empties provided against the type and quantity stated on the delivery note.

After EOS, ZKW (Purchasing) shall agree with the supplier on the quantity of reusable containers that are still required to eliminate the binding of storage capacities for empty containers that are no longer needed. This also comes into effect if a permanent, significant decrease in the call-off quantities has occurred in the series delivery.

**Approving of (substitute) packaging materials does not relieve suppliers of their responsibility of proper parts deliveries.**

### 3.2.2 Warehousing of packaging provided

Empty packaging provided must be stored in covered areas by the supplier. In addition, it must be ensured that contamination with materials that are not suitable as packaging materials (cardboard, fillers...) is excluded.

EPP trays for return deliveries to ZKW must be collected in an upside-down position on pallets, sorted by type, and stored under a roof (in a dry place). One-way packaging components are to be disposed of. Empties shall be handled by container return (exchange) with each shipment.

### 3.2.3 Return of empties

**Exception ZKW Lichtsysteme GmbH and ZKW Slovakia s.r.o.:** Only clean containers may be returned. Contaminated or defective containers must be handled in consultation with ZKW Container Management. All packing units of the containers must be provided with a blue lid and wrapped in film. In addition, each return of empties must be accompanied by a delivery note with the exact number of containers. The corresponding stacking factors must also be observed (see 4.3.5 Stacking factors return of empties).

### 3.2.4 Container accounts

ZKW sets up an account to keep track of every inward and outward movement of every reusable packaging.

Reusable packaging is provided with an identification number. Stock movements of all load carriers will be listed, and their stock taken at the end of every month. These reconciled container accounts are checked and discrepancies, if any, shall be reported within 14 days by submitting a copy of the delivery note for evidence.

If ZKW does not receive a response to the reconciliation, the stocks shall be irrevocably deemed confirmed and legally valid. Both parties mutually benefit from the packaging accounts being accurate. A timely and sufficient supply of empties can be provided in due time only if the recorded packaging stock matches the actual stock at hand.

### 3.2.5 Stocktaking / inventory control

In order to keep track of the container circulation in the container accounts, it is mandatory that the shipping documents state the type and quantity of empties in every delivery to ZKW. This also applies to additional reusable packaging materials (e.g., interlayers, plastic lattices, ...)

The packaging stock shall be counted at least twice a year at the request of ZKW's Container Management. It is mandatory to physically record the packaging stock and reported to ZKW in any case. If no report is made within one week, the supplier will be charged an administrative penalty.

If discrepancies are found to be caused by the loss of or damage to containers owned by ZKW, the costs of procuring replacement resources shall be invoiced to the party responsible.

### 3.2.6 Complaints

All deliveries of containers in need of repair should first be discussed with ZKW's competent departments. In case damaged containers are supplied with goods in them, such shipments shall be confirmed by the carrier and immediately reported to ZKW's competent department.

The parties will then cooperate to decide on the return or disposal of the containers concerned and the correction of accounts.

### 3.2.7 Substitute packaging and extra handling efforts

The use of alternative packaging must be justified in writing (e.g. pre-series start-ups, extraordinary lead times, short-term increases in delivery call-offs, etc.) and coordinated in good time with the purchasing parts planner or the container management. A corresponding note, "substitute packaging" or "alternative packaging" shall be added to the delivery note with the details of the contact person with whom the packaging was agreed (name, department code, phone no.).

As alternative packaging, disposable packaging can also be used. The packaging must follow the requirements mentioned in chapter 3.3 Disposable packaging.



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Where substitute packaging is required, the supplier may suggest and use a specific type of packaging if so agreed upon with the responsible departments. It must be noted that packaging chosen by the supplier must match the standard dimensions of containers used by ZKW and must be approved by ZKW. The supplier may not cancel shipments due to non-availability of returnable containers or returnable components. The supplier is required to have an adequate stock of alternative packaging to ensure production shipping can continue.

In case the supplier fails to comply the specified (substitute) packaging through the fault of the supplier (e.g., by using the wrong container, dirty packaging, ...), ZKW reserves the right to charge the additional costs of handling, disposal, rejects handling and repackaging, as well as transportation costs for emergency transports to the supplier concerned.

If substitute packaging is not agreed with ZKW in due time, the extra costs (e.g., of repackaging) will be charged to the supplier.

### **Exception ZKW México S.A. de C.V:**

If alternative packaging is used, the parts must also be packed in a plastic bag to ensure faster repackaging.

### **3.3 Disposable packaging**

A disposable packaging concept is only allowed if otherwise impossible for economic reasons or if overseas shipments are made. In order to avoid repackaging costs, disposable plastic (corrugated PP) containers with a removable cover are preferred.

The dimensions should match the dimensions of reusable containers (see 4.3 Catalog of standard ZKW packaging containers for packaging provided). Abrasion resistance and dustproof for inner packaging is the key to material selection with the aim of avoiding particle emissions (preferred materials are plastic trays, plastic inserts, EPP trays or equivalent as interlayers or plastic sheets... or their ESD alternatives if necessary). Do not use packaging made of cardboard, wood, polystyrene, corrugated cardboard, compressed chipped wood or equivalent material, any extra padding or cushioning material (such as polystyrene flakes,...).

The bottom of the container must be able to sustain the weight of the components. For improved stability, an interlayer may be added at the bottom. The thickness of disposable packaging materials shall be chosen according to the weight of the packaging container.

Each container shall be closed with a removable lid. ESD packaging must be selected for sensitive parts to prevent electrostatic charging. For overseas deliveries, sufficient desiccant and ISPM/ IPPC pallets must also be used for protection against corrosion. Please ensure that the pallets are stackable, especially for overseas transport.

After alignment of the packaging with ZKW, the supplier must disclose the composition of all packaging components that make up the packaging unit for recycling reasons.

### 3.4 Sustainability requirements for load carriers

Packaging materials may only be made from recyclable materials, and the packaging design must aim for the best possible recyclability.

When selecting packaging, care must be taken to use a standardized packaging material wherever possible and reasonable. This means that no different types of polymer should be used for one container (e.g. lids, compartments, handle inserts, ... all made of PP). Nor should labels made of foreign materials be used (plastic labels on plastic, paper on cardboard). Metal staples should not be used for joining processes; thermal joining processes (welding) are preferable.

#### 3.4.1 Labelling the material class and packaging composition

If mono-material packaging is not possible or reasonable, the weights of the various packaging components must be stated separately. The packaging must be labelled with the respective country-specific recycling code of the destination country. If technically possible, this must be printed or embossed, otherwise it must be indicated on the delivery note.

#### 3.4.2 Secondary material content in the packaging material

As far as technically and economically possible, the packaging must consist of 100% recycled material, regardless of the base material. The statutory minimum quotas for recycled material content in the country of destination must be complied with. The proportion of secondary material must be disclosed.

#### 3.4.3 Packaging with biogenic content and biodegradable plastics

The European Deforestation Regulation must be complied with when using biogenic materials. The biogenic content must be specified. Biodegradable plastics are to be avoided due to the regulated waste management at the destination.



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## 4 Appendix

### 4.1 Goods tag sample in conformity with VDA 4902 version 4

|   |  |   |                                       |                           |
|---|--|---|---------------------------------------|---------------------------|
| (1) Receiver<br><b>Musterwerk<br/>Musterstrasse 1<br/>A-9999 Musterstadt</b>  |  | (2) Dock - Gate<br><b>A5-L31</b>  |                                       |                           |
| (3) Advice Note No (N)<br><b>123456789</b><br> |  | (4) Supplier Address<br><b>CSS MAW/3, 9999 Musterstadt</b>  |                                       |                           |
|   |  | (5) Net weight<br><b>345</b>  | (6) Gross weight<br><b>450</b>        | (7) No Boxes<br><b>01</b> |
| (8) Part No (P)<br><b>1111.222.3333</b><br>    |  |   |                                       |                           |
| (9) Quantity (Q)<br><b>140</b><br>            |  | (10) Description<br><b>MUSTERTEIL</b>   |                                       |                           |
| (12) Supplier (V)<br><b>1234</b><br>         |  | (11) Supplier Part No (30S)<br><b>9876.543.210</b>  |                                       |                           |
| (15) Serial No (S)<br><b>2581752 01</b><br>  |  | (13) Date<br><b>D 190101</b>  | (14) Eng. Change<br><b>A43-275 XL</b> |                           |
| (17) CSS, POSTFACH 456, 9999 Musterstadt  |  | (16) Batch No (H)<br><b>C 123</b><br> |                                       |                           |
|   |  | Warenanhänger VDA 4902, Version 4   |                                       |                           |

### 4.2 Link to packaging datasheet

<https://zkw-group.com/en/home/partners/suppliers/>

## 4.3 Catalog of standard ZKW packaging containers for packaging provided

### 4.3.1 ZKW Lichtsysteme GmbH

#### 4.3.1.1 Returnable packaging possibilities:

| Type                    | Container number       | Description                              | Picture   | Weight (in kg) | Inner Dimension |     |     | Outer Dimension |     |          | ZKW owned packaging | development packaging supplier | Label         |
|-------------------------|------------------------|--|---|----------------|-----------------|-----|-----|-----------------|-----|----------|---------------------|--------------------------------|---------------|
|                         |                        |  |   |                | L               | W   | H   | L               | w   | H        |                     |                                |               |
| outer packaging         | I05                    | folding box 8645                         |    | 8,59           | 760             | 560 | 410 | 800             | 600 | 465      | x                   |                                | SS            |
| outer packaging         | I09                    | folding box 6432                         |    | 3,15           | 556             | 356 | 290 | 600             | 400 | 320      | x                   |                                | SS            |
| outer packaging         | I17                    | AKL box big 6220                         |    | 3,22           | 566             | 366 | 183 | 600             | 400 | 238      | x                   |                                | LS            |
| outer packaging         | I16                    | AKL box small 4220                       |    | 1,83           | 366             | 266 | 183 | 400             | 300 | 238      | x                   |                                | SS            |
| outer packaging         | I11                    | ESD-box EF 6220                          |    | 2,85           | 545             | 345 | 210 | 600             | 400 | 220      | x                   |                                | SS            |
| outer packaging         | I0111                  | ESD-box EF 6120                          |    | 2,13           | 559             | 359 | 100 | 600             | 400 | 120      | x                   |                                | SS            |
| outer packaging         | I49                    | ESD box EF4170                           |   | 1,20           | 352             | 252 | 165 | 400             | 300 | 170      | x                   |                                | SS            |
| outer packaging         | I50                    | KTP-box                                  |    | 37,00          | 1170            | 770 | 745 | 1230            | 835 | 945      | x                   |                                | SS            |
| outer packaging         | number supplied by ZWK | EPP-Tray Grundabmessungen 800 x 600 mm   | <br><small>(inner dimension --&gt; cutout for lid)</small>     | variable       | 745             | 540 |     | 790             | 590 | variable |                     | x                              | SS            |
| outer packaging         | number supplied by ZWK | EPP-Tray Grundabmessungen 600 x 400 mm   | <br><small>(inner dimension --&gt; cutout for lid)</small>     | variable       | 535             | 335 |     | 590             | 390 | variable |                     | x                              | on lid        |
| outer packaging / inlay | number supplied by ZWK | moulding tray                            |    |                |                 |     |     |                 |     |          |                     | x                              | on pallet lid |
| lid                     | I47                    | lid for ESD-boxn EF6220 + EF6120         |    | 0,85           | 560             | 360 | 10  | 600             | 400 | 25       | x                   |                                |               |
| lid                     | I68                    | lid for ESD box EF 4170                  |    | 0,50           | 355             | 255 | 10  | 400             | 300 | 25       | x                   |                                |               |
| lid                     | I59                    | pallet lid PP lid A-1208                 |    | 5,00           | 1200            | 800 | 25  | 1215            | 810 | 45       | x                   |                                |               |
| lid                     | I62                    | lid for EPP-Tray 800 x 600 mm            | <br><small>(upper space in box needed for lid: 150 mm)</small> | 0,81           |                 |     |     | 790             | 590 | 300      | x                   |                                |               |
| lid                     | I63                    | lid for EPP-Tray 600 x 400 mm            | <br><small>(upper space in box needed for lid: 100 mm)</small> | 0,39           |                 |     |     | 590             | 390 | 300      | x                   |                                |               |
| lid                     | I53                    | lid for moulding trays                   |    |                |                 |     |     | 573             | 381 | 21,5     | x                   |                                |               |
| grid                    |                        | various grids (PE, PP) for several boxes |    |                |                 |     |     |                 |     |          | x                   |                                |               |
| inner packaging / inlay | number supplied by ZWK | Blister                                  |   |                |                 |     |     |                 |     |          |                     | x                              |               |
| pallet                  | I01                    | Plastic Pallet                           |    | 16,50          |                 |     |     | 1200            | 800 | 155      | x                   |                                |               |

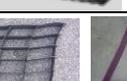


BRIGHT MINDS,  
BRIGHT LIGHTS.

| Type  | Container number | Description  | Picture   | Weight<br>(in kg) | Inner Dimension |   |   | Outer Dimension |     |   | ZKW owned packaging | development packaging supplier | Label |
|-------|------------------|--|---|-------------------|-----------------|---|---|-----------------|-----|---|---------------------|--------------------------------|-------|
|       |                  |  |   |                   | L               | W | H | L               | w   | H |                     |                                |       |
| layer | Z00              | layer PP03 hard for folding box big I05<br>material: PP                                  |    |                   |                 |   |   | 750             | 550 | 3 | x                   |                                |       |
| layer | Z08              | layer PP52 hard for AKL small I16<br>material: PP  |    |                   |                 |   |   | 360             | 260 | 3 | x                   |                                |       |
| layer | Z11              | layer PP23 hard for folding box small I09, AKL big I17<br>material: PP                   |    |                   |                 |   |   | 555             | 355 | 3 | x                   |                                |       |
| layer | Z47              | layer hard PP-G46 for KTP-box I50<br>material: PP  |    |                   |                 |   |   | 1160            | 760 | 3 | x                   |                                |       |
| layer | Z55              | layer PP-G88 soft/hard/soft for KTP-box I50<br>material: PE/PP/PE                        |    |                   |                 |   |   | 1160            | 760 | 5 | x                   |                                |       |
| layer | Z56              | layer PP-G96 soft/hard/soft for folding box small I09, AKL big I17<br>material: PE/PP/PE |    |                   |                 |   |   | 550             | 350 | 5 | x                   |                                |       |
| layer | Z57              | layer PE123 soft/hard/soft for folding box big I05<br>material: PE/PP/PE                 |    |                   |                 |   |   | 750             | 550 | 5 | x                   |                                |       |
| layer | Z58              | layer PP-G93 soft/hard/soft for AKL small I16<br>material: PE/PP/PE                      |    |                   |                 |   |   | 362             | 259 | 5 | x                   |                                |       |
| layer | Z03              | layer ESD for ESD-box I11+I0111<br>material: PP  |  |                   |                 |   |   | 550             | 355 | 3 | x                   |                                |       |
| layer | Z72              | layer ESD for ESD-box I49<br>material: PP  |  |                   |                 |   |   | 350             | 250 | 3 | x                   |                                |       |

## 4.3.2 ZKW Slovakia s.r.o.

### 4.3.2.1 Returnable packaging possibilities:

| Container type  | Container number      | Description                      | Picture   | Weight (in kg) | Inner Dimension |     |     | Outer Dimension |     |      | ZKW owned packaging | packaging development supplier | Label |
|-----------------|-----------------------|----------------------------------|---|----------------|-----------------|-----|-----|-----------------|-----|------|---------------------|--------------------------------|-------|
|                 |                       |                                  |   |                | L               | W   | H   | L               | W   | H    |                     |                                |       |
| outer packaging | I05                   | Faltbox 8645                     |    | 8,59           | 760             | 560 | 410 | 800             | 600 | 465  | x                   |                                | SS    |
| outer packaging | I09                   | Faltbox 6432                     |    | 3,15           | 556             | 356 | 290 | 600             | 400 | 320  | x                   |                                | SS    |
| outer packaging | I17                   | AKL Behälter gross 6220          |    | 3,22           | 566             | 366 | 183 | 600             | 400 | 238  | x                   |                                | LS    |
| outer packaging | I16                   | AKL Behälter klein 4220          |    | 1,83           | 366             | 266 | 183 | 400             | 300 | 238  | x                   |                                | LS    |
| outer packaging | I11                   | ESD-Box EF 6220                  |    | 2,85           | 545             | 345 | 210 | 600             | 400 | 220  | x                   |                                | LS    |
| outer packaging | I49                   | ESD Kiste EF4170                 |    | 1,2            | 352             | 252 | 156 | 400             | 300 | 170  | x                   |                                | LS    |
| outer packaging | I74                   | ESD box + deckel 800x600x320     |   | 5,5            | 760             | 560 | 305 | 800             | 600 | 320  | x                   |                                | SS    |
| outer packaging | J73                   | ESD Box 64/32+Lid_600x400x320    |  | 2,62           | 570             | 370 | 315 | 600             | 400 | 320  | x                   |                                | SS    |
| outer packaging | I57                   | TS Box S1240 SK šedý             |  | 35             | 1195            | 795 | 785 | 1240            | 835 | 960  | x                   |                                | LS    |
| outer packaging | defined number by ZKW | EPP-Tray ESD                     |  | variable       |                 |     |     |                 |     |      |                     | x                              | SS    |
| outer packaging | defined number by ZKW | EPP-Tray                         |  | variable       |                 |     |     |                 |     |      |                     | x                              | SS    |
| outer packaging | 808                   | Deckel                           |  | 3,3            | 1200            | 800 | 35  |                 |     |      | x                   |                                |       |
| lis             | J05                   | ESD LID 1208V1 (1200x800)        |  | 3,3            | 1200            | 800 | 35  |                 |     |      | x                   |                                |       |
| lid             | I62                   | Deckel fur EPP-Tray 800 x 600 mm |  | 0,81           |                 |     |     | 790             | 590 | 300  | x                   |                                |       |
| lid             | I63                   | Deckel fur EPP-Tray 600 x 400 mm |  | 0,39           |                 |     |     | 590             | 390 | 300  | x                   |                                |       |
| lid             | I53                   | ESD Deckel Plastic Trays         |  |                |                 |     |     | 573             | 381 | 21,5 | x                   |                                |       |
| grid            | grid                  | diverse Gitter (PE,PP)           |  |                |                 |     |     |                 |     |      | x                   | x                              |       |
| grid            | grid                  | diverse textile grid             |  | variable       |                 |     |     |                 |     |      | x                   |                                |       |

| Container type | Container number | Description                    | Picture   | Weight (in kg) | Inner Dimension |   |   | Outer Dimension |     |     | ZKW owned packaging | packaging development supplier | Label |
|----------------|------------------|--------------------------------|---|----------------|-----------------|---|---|-----------------|-----|-----|---------------------|--------------------------------|-------|
|                |                  |                                |   |                | L               | W | H | L               | W   | H   |                     |                                |       |
| inlay          | inlays           | Blister                        |    |                |                 |   |   |                 |     |     |                     | x                              |       |
| inlay          | inlays           | blister ESD                    |    | variable       |                 |   |   |                 |     |     |                     | x                              |       |
| pallet         | I01              | Kunststoffpalette schwarz      |    | 16,5           |                 |   |   | 1200            | 800 | 160 | x                   |                                |       |
| pallet         | I60              | H1 ESD Conductive KSP          |    | 25             |                 |   |   | 1200            | 800 | 150 | x                   |                                |       |
| inlay          | Z00              | PP-ZWL PP03 8645 grau          |    | 0,2            |                 |   |   | 750             | 550 | 3   | x                   |                                |       |
| inlay          | Z14              | PE-ZWL PE07 anthrazit klein    |    | 0,1            |                 |   |   | 360             | 260 | 4   | x                   |                                |       |
| inlay          | Z17              | HKP/PE ZWL PE27 AKL klein 750  |    | 0,15           |                 |   |   | 360             | 260 | 7   | x                   |                                |       |
| inlay          | Z52              | HKP/PE ZWL PE29 8645 dünn      |   | 0,3            |                 |   |   | 750             | 550 | 5   | x                   |                                |       |
| inlay          | Z53              | HKP/PE ZWL PE28 AKL groß dünn  |  | 0,2            |                 |   |   | 555             | 355 | 4   | x                   |                                |       |
| inlay          | Z58              | PP-G93 PP/PE-Layer 360x260 Z58 |  | 0,12           |                 |   |   | 360             | 260 | 7   | x                   |                                |       |
| inlay          | Z64              | Z64_PP/PE-Layer_1195x785x5     |  | 1,2            |                 |   |   | 1195            | 785 | 5   | x                   |                                |       |
| inlay          | Z59              | PP-ZWL PP500 TS purple         |  | 0,6            |                 |   |   | 1195            | 785 | 4   | x                   |                                |       |
| inlay          | Z70              | ESD layer 1129 540x350mm       |  | 0,2            |                 |   |   | 540             | 350 | 4   | x                   |                                |       |
| inlay          | Z95              | Z95_ESD_PP_Layer_360x260x3     |  | 0,1            |                 |   |   | 360             | 260 | 3   | x                   |                                |       |

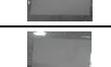
#### 4.3.2.2 One-way packaging possibilities:

| Container type  | Container number | Description  | Picture   | Weight (in kg)            | Inner Dimension |   |     | Outer Dimension |     |   | ZKW owned packaging | packaging development supplier | Label |
|-----------------|------------------|--|---|---------------------------|-----------------|---|-----|-----------------|-----|---|---------------------|--------------------------------|-------|
|                 |                  |  |   |                           | L               | W | H   | L               | W   | H |                     |                                |       |
| outer packaging |                  | one-way plastic box with cover 800x600x460 or similar dimensions     |    |                           |                 |   | 800 | 600             | 460 |   | x                   |                                |       |
| outer packaging |                  | one-way plastic box with cover 600x400x230 or similar dimensions     |    |                           |                 |   | 600 | 400             | 230 |   | x                   |                                |       |
| outer packaging |                  | one-way plastic box with cover 400x300x230 or similar dimensions     |    |                           |                 |   | 400 | 300             | 230 |   | x                   |                                |       |
| outer packaging |                  | one-way ESD plastic box with cover 800x600x460 or similar dimensions |    |                           |                 |   | 800 | 600             | 460 |   | x                   |                                |       |
| outer packaging |                  | one-way ESD plastic box with cover 600x400x230 or similar dimensions |    |                           |                 |   | 600 | 400             | 220 |   | x                   |                                |       |
| outer packaging |                  | one-way ESD plastic box with cover 400x300x230 or similar dimensions |    |                           |                 |   | 400 | 300             | 220 |   | x                   |                                |       |
| outer packaging |                  | IPPC/ ISPM wooden pallet   |    |                           |                 |   |     |                 |     |   | x                   |                                |       |
| inner packaging |                  | one-way plastic layer  |   | variable acc. to used box |                 |   |     |                 |     |   | x                   |                                |       |
| inner packaging |                  | one-way plastic insert   |  | variable acc. to used box |                 |   |     |                 |     |   | x                   |                                |       |
| inner packaging |                  | one-way blister  |  | variable acc. to used box |                 |   |     |                 |     |   | x                   |                                |       |
| inner packaging |                  | one-way ESD plastic layer  |  | variable acc. to used box |                 |   |     |                 |     |   | x                   |                                |       |
| inner packaging |                  | one-way ESD plastic insert   |  | variable acc. to used box |                 |   |     |                 |     |   | x                   |                                |       |
| inner packaging |                  | one-way ESD blister  |  | variable acc. to used box |                 |   |     |                 |     |   | x                   |                                |       |

### 4.3.3 ZKW Lighting Systems (Dalian) Co., Ltd

#### 4.3.3.1 Returnable packaging possibilities:

| Container type | Container number      | Description                     | Picture   | Weight (in kg) | Inner Dimension |     |     | Outer Dimension |     |      | ZKW owned packaging | packaging development supplier | Label |
|----------------|-----------------------|---------------------------------|---|----------------|-----------------|-----|-----|-----------------|-----|------|---------------------|--------------------------------|-------|
|                |                       |                                 |   |                | L               | W   | H   | L               | W   | H    |                     |                                |       |
| Pallet         | P01                   | Plastic pallet                  |    | 16,5           | 1200            | 800 | 150 | 1200            | 800 | 150  | √                   |                                |       |
| Container      | I05                   | Faltbox 8645                    |    | 8,59           | 760             | 560 | 410 | 800             | 600 | 465  | √                   |                                |       |
| Container      | I32                   | KTP Folding PP container        |    | 32             | 1160            | 760 | 895 | 1200            | 800 | 1050 | √                   |                                |       |
| Container      | I34                   | Folding plastic box 800*600*335 |    | 5,25           | 765             | 550 | 320 | 800             | 600 | 335  | √                   |                                |       |
| Container      | I35                   | Folding plastic box 600*400*335 |    | 3,23           | 560             | 360 | 320 | 600             | 400 | 335  | √                   |                                |       |
| Container      | I36                   | Plastic box 400*300*145         |    | 0,84           | 360             | 260 | 140 | 400             | 300 | 145  | √                   |                                |       |
| Container      | H70                   | Plastic box 600x400x148         |    | 2,42           | 560             | 360 | 152 | 600             | 400 | 167  | √                   |                                |       |
| Container      | I46                   | ESD-Box 600*400*220mm           |   | 2,7            | 570             | 370 | 215 | 600             | 400 | 220  | √                   |                                |       |
| Cover          | C01                   | Transparent Cover for I34 box   |  | 0,82           | 745             | 545 | 20  | 745             | 545 | 20   | √                   |                                |       |
| Cover          | c02                   | Transparent Cover for I35 box   |  | 0,42           | 550             | 355 | 20  | 550             | 355 | 20   | √                   |                                |       |
| Cover          | c03                   | Transparent Cover for I36 box   |  | 0,23           | 345             | 245 | 20  | 345             | 245 | 20   | √                   |                                |       |
| Inlay          | defined number by ZKW | ESD HDPE Plastic Tray           |  | variable       | *               | *   | *   | *               | *   | *    |                     | √                              |       |
| Inlay          | defined number by ZKW | ESD EPP Tray                    |  | variable       | *               | *   | *   | *               | *   | *    |                     | √                              |       |
| Inlay          | defined number by ZKW | PP+PE Plastic Separator         |  | variable       | *               | *   | *   | *               | *   | *    | √                   | √                              |       |
| Inlay          | defined number by ZKW | Textile Separator               |  | variable       | *               | *   | *   | *               | *   | *    | √                   | √                              |       |

| Container type | Container number | Description                        | Picture   | Weight (in kg) | Inner Dimension |     |    | Outer Dimension |     |    | ZKW owned packaging | packaging development supplier | Label |
|----------------|------------------|------------------------------------|---|----------------|-----------------|-----|----|-----------------|-----|----|---------------------|--------------------------------|-------|
|                |                  |                                    |   |                | L               | W   | H  | L               | W   | H  |                     |                                |       |
| Layer          | Z21              | PE Layer for I36<br>345*245*4mm    |    | 0,1            | 345             | 245 | 4  | 345             | 245 | 4  | v                   | v                              |       |
| Layer          | Z22              | PE Layer for I35<br>550*355*4mm    |    | 0,2            | 550             | 335 | 4  | 550             | 335 | 4  | v                   | v                              |       |
| Layer          | Z23              | PE Layer for I34<br>745*545*4mm    |    | 0,3            | 745             | 545 | 4  | 745             | 545 | 4  | v                   | v                              |       |
| Layer          | Z24              | PP Layer for I36<br>345*245*4mm    |    | 0,1            | 345             | 245 | 4  | 345             | 245 | 4  | v                   | v                              |       |
| Layer          | Z25              | PP Layer for I35<br>550*355*4mm    |    | 0,2            | 550             | 355 | 4  | 550             | 355 | 4  | v                   | v                              |       |
| Layer          | Z26              | PP Layer for I34<br>745*545*4mm    |    | 0,4            | 754             | 545 | 4  | 754             | 545 | 4  | v                   | v                              |       |
| Layer          | Z27              | PP Layer for I32<br>1120*760*4mm   |    | 0,7            | 1160            | 760 | 4  | 1160            | 760 | 4  | v                   | v                              |       |
| Layer          | Z30              | PE Layer for I34(Sandwich)         |    | 0,4            | 745             | 545 | 10 | 745             | 545 | 10 | v                   | v                              |       |
| Layer          | Z32              | PP+PE Layer for I35(Sandwich)      |    | 0,2            | 550             | 335 | 10 | 550             | 335 | 10 | v                   | v                              |       |
| Layer          | Z33              | PP+PE Layer for I36(Sandwich)      |  | 0,1            | 345             | 245 | 10 | 345             | 245 | 10 | v                   | v                              |       |
| Layer          | Z31              | PP Layer for I32<br>1125*725*4mm   |  | 0,7            | 1125            | 725 | 4  | 1125            | 725 | 4  | v                   | v                              |       |
| Layer          | Z34              | Z34_PE+PP+PE-<br>Layer_1125x725x10 |  | 0,7            | 1125            | 725 | 10 | 1125            | 725 | 10 | v                   | v                              |       |



# BRIGHT MINDS, BRIGHT LIGHTS.

## 4.3.4 ZKW México S.A. de C.V.

### 4.3.4.1 Returnable packaging possibilities:

| Container type  | Container number      | Description                       | Picture | Weight (in kg) | Inner Dimension |     |     | Outer Dimension |     |     | ZKW owned packaging | packaging development supplier | Label |
|-----------------|-----------------------|-----------------------------------|---------|----------------|-----------------|-----|-----|-----------------|-----|-----|---------------------|--------------------------------|-------|
|                 |                       |                                   |         |                | L               | W   | H   | L               | W   | H   |                     |                                |       |
| outer packaging | I05                   | Faltbox 8645                      |         | 8,59           | 760             | 560 | 410 | 800             | 600 | 465 | x                   |                                | SS    |
| outer packaging | I09                   | Faltbox 6432                      |         | 3,15           | 556             | 356 | 290 | 600             | 400 | 320 | x                   |                                | SS    |
| outer packaging | I17                   | AKL Behälter gross 6220           |         | 3,22           | 566             | 366 | 183 | 600             | 400 | 238 | x                   |                                | LS    |
| outer packaging | I16                   | AKL Behälter klein 4220           |         | 1,83           | 366             | 266 | 183 | 400             | 300 | 238 | x                   |                                | LS    |
| outer packaging | I11                   | ESD-Box EF 6220                   |         | 2,85           | 545             | 345 | 190 | 600             | 400 | 220 | x                   |                                | LS    |
| outer packaging | I47                   | ESD-LID EF 6220                   |         | 0,732          |                 |     |     | 600             | 400 | 220 | x                   |                                | LS    |
| outer packaging | I50                   | KTP-Box 1230x830x945 ZKW I50      |         | 37             | 1170            | 770 | 745 | 1230            | 830 | 945 | x                   |                                | LS    |
| outer packaging | defined number by ZKW | EPP-Tray ESD                      |         | variable       |                 |     |     |                 |     |     | x                   |                                | LS    |
| outer packaging | defined number by ZKW | EPP-Tray                          |         | variable       |                 |     |     |                 |     |     | x                   |                                | LS    |
| grid            | grid                  | diverse textile grid              |         | variable       |                 |     |     |                 |     |     | x                   |                                |       |
| inlay           | inlays                | Blister                           |         | variable       |                 |     |     |                 |     |     |                     | x                              |       |
| inlay           | inlays                | blister ESD                       |         | variable       |                 |     |     |                 |     |     |                     | x                              |       |
| inlay           | inlays                | Tray ESD                          |         | variable       |                 |     |     |                 |     |     | x                   |                                |       |
| pallet          | I01                   | Kunststoffpalette schwarz         |         | 16,5           |                 |     |     | 1200            | 800 | 160 | x                   |                                |       |
| inlay           | Z56                   | soft-hard-soft interlayer for I05 |         | 0,2            |                 |     |     | 755             | 555 | 5   | x                   |                                |       |
| inlay           | Z55                   | HKP/PE Layer PP-G88 KTP Box       |         | 0,2            |                 |     |     | 1150            | 790 | 5   | x                   |                                |       |
| inlay           | Z53                   | HKP/PE ZWL PE28 AKL groß dünn     |         | 0,2            |                 |     |     | 555             | 355 | 4   | x                   |                                |       |
| inlay           | B94                   | B94_PP_Grid_Black_1150x412x293    |         | 0,3            |                 |     |     | 1150            | 465 | 293 | x                   |                                |       |

#### 4.3.5 Stacking factors return of empties

| Containers / Boxes   |                            |                       |   |                                 |                               |
|--|----------------------------|-----------------------|---|---------------------------------|-------------------------------|
|  |                            | ZKW Lichtsysteme GmbH |   | ZKW Slovakia s.r.o              |                               |
| Packaging Number   | Description                | pcs                   |   | pcs                             |                               |
| I05  | Faltbox 8645 gross         | 32                    | per plastic pallet, collapsed   | 16                              | per plastic pallet, collapsed |
| I09  | Faltbox 6432 klein         | 48                    | per plastic pallet, collapsed   | 60                              | per plastic pallet, collapsed |
| I16  | AKL Box klein 4220         | 64                    | per plastic pallet  | 64                              | per plastic pallet            |
| I17  | AKL Box gross 6220         | 32                    | per plastic pallet  | 32                              | per plastic pallet            |
| I11  | ESD Kiste                  | 32                    | per plastic pallet  | 32                              | per plastic pallet            |
| I0111  | ESD Kiste klein            | 60                    | per plastic pallet  | 60                              | per plastic pallet            |
| PP/PE Layer  |                            |                       |   |                                 |                               |
|  |                            | ZKW Lichtsysteme GmbH |   | ZKW Slovakia s.r.o              |                               |
| Packaging Number   | Description                | pcs                   |   |                                 |                               |
| Z56  | PP-G89 PP/PE Layer 550x350 | 34                    | per AKL Box groß I17<br>16 pcs. AKL Boxen groß on 1 plastic pallet I01    | Inner layers are stored in KTPs |                               |
| Z57  | PE123 PP/PE Layer 750x550  | 80                    | per Faltbox groß I05<br>4 pcs. Faltboxen groß I05 on 1 plastic pallet I01 |                                 |                               |
| Z58  | PP-G93 PP/PE Layer 262x362 | 300                   | per Faltbox groß I05<br>4 pcs. Faltboxen groß I05 on 1 plastic pallet I01 |                                 |                               |
| Inlays / Grids (PE/PP Grids)   |                            |                       |   |                                 |                               |
| collapsed in container / box, Pieces per box after alignment with Container Management |                            |                       |   |                                 |                               |
| Plastic Pallet   |                            |                       |   |                                 |                               |
|  |                            | ZKW Lichtsysteme GmbH |   | ZKW Slovakia s.r.o              |                               |
| Packaging Number   | Description                | pcs                   |   | pcs                             |                               |
| I01  | Plastic palett             | 13                    | stacked   | 15                              | stacked                       |
| EPP Trays  |                            |                       |   |                                 |                               |
| are to be placed on plastic pallets with the opening facing downwards                  |                            |                       |   |                                 |                               |

#### 4.4 Hazard warning sign for ESD-susceptible parts



## 5 Change history

| <b>Index / Revision</b> | <b>Date</b> | <b>Reason for Change</b> | <b>Change description</b>          |
|-------------------------|-------------|--------------------------|------------------------------------|
| Version 13 – 2021       | 09.12.2021  | Update & additions       | Standardization & global alignment |
| Version 14 – 2023       | 13.07.2023  | Update & additions       | Additions                          |
| Version 15 – 2024       | 18.09.2024  | General Update           |                                    |

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