

# **Spare Parts Packaging: Paper, Board, Paperboard**

## **Foreword**

This specification is intended to ensure the proper delivery of packaging materials for the different plants or sub-plants.

This edition supersedes the former edition of this standard.

## **Changes**

The following changes were made compared with edition 2021-09:

- Section 4: Inclusion of Decreto Legislativo 116/2020

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## 1 Scope

This DBL applies to all spare parts packaging deliveries of paper, board, and paperboard for all plants of the Daimler Group. The product versions are listed in Table 1.

**Table 1: Product versions, overview**

Product version	Material designation	Application example
B 4 xxx 20 xxx	Packaging, packaging materials, and packaging auxiliaries manufactured from corrugated fiberboard and corrugated fiberboard cuttings	Cardboard boxes, ring parts, telescoping parts, inserts
B 4 xxx 21 xxx	Packaging, packaging materials, and packaging auxiliaries manufactured from heavy corrugated fiberboard and heavy corrugated fiberboard cuttings	Cardboard boxes, ring parts, telescoping parts, inserts
B 4 xxx 15 xxx	Packaging, packaging materials, and packaging auxiliaries manufactured from board, solid fiberboard, and solid fiberboard cuttings	Cardboard boxes, inlays

## 2 Normative references

In the text, the following documents shall be referenced in such a way that some parts of them or their entire content describe the requirements of the present document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

DBL 6714	Negative List - Constituents of Process Materials
DBL 8585	General Requirements - Environmental Protection, Hazardous Substances, Dangerous Goods - Negative Substance List for the Selection of Materials
DIN 19303	Paperboard - Terms and grades
DIN 55429-2	Packaging - Boxes manufactured from board, solid fiberboard or corrugated fiberboard - Part 2: Dimensions, limit deviations, testing of dimensions
DIN 55468-1	Packaging Materials - Corrugated Board - Part 1: Requirements, Testing
DIN 55468-2	Packaging materials - Corrugated board - Part 2: Wet strength adhesion, requirements and testing
DIN EN 14053	Packaging - Packagings manufactured from corrugated or solid fiberboard - Types and construction
DIN EN 14054	Packaging - Paper and paperboard packaging - Design of cartons
DIN EN ISO 780	Packaging - Distribution packaging - Graphical symbols for handling and storage of packages
VDA 4902	Warenanhänger (barcode-fähig) (DocMaster contains no English translation)

## 3 Terms and definitions

BAM	Bundesanstalt für Materialforschung und -prüfung (German Federal Institute for Materials Research and Testing)
FEFCO	European Federation of Corrugated Board Manufacturers

FSC	Forest Stewardship Council
PEFC	Program for the Endorsement of Forest Certification
VCI	Volatile corrosion inhibitor
VDW	Verband der Wellpappen-Industrie e.V.

## 4 General requirements




To guarantee product safety and product quality, and to meet certification requirements, all relevant statutory regulations and laws shall be complied with. In addition, the relevant requirements of the Daimler Group apply.

All materials, process engineering, component parts, and systems shall comply with all applicable legal requirements regarding constituents and recyclability.

DBL 8585 and DBL 6714 shall be observed.

In addition, Decreto Legislativo 116/2020 shall be fulfilled.

**Table 2: Product versions, overview**

Corresponding identification of packaging in accordance with Table 2		Corrugated fiberboard
		Other paperboard
		Paper

Packaging shall be produced based on the principle of material and volume saving. In addition, the materials used shall be recyclable and widely accepted for recycling. Composites shall be avoided as much as possible so that straightforward separation can be ensured after use. VCI paper shall be capable of recycling together with paper, board, and paperboard.

## 5 Abbreviated material designation for documentation

The relevant information, e.g. type, dimensions, quality, shall be indicated in the "Designation" drawing title block.

## 6 General properties of materials, raw materials, and delivery condition

### 6.1 Basic quality requirements

The packaging shall be free of production defects of any type that would impair the processing and utilization properties or the appearance. This applies in particular to defects such as: Undesired grooves, dimensional accuracy defects, grammage defects, etc. In addition, packaging shall have a high interlaminar strength and be true to dimension, stable, dimensionally stable, and aging resistant in line with its application. All cut edges and cut-outs shall be mostly smooth and free of splits. The material shall be free of substances damaging to paper production.

Recycled material shall preferably be used. The supplier is obliged to procure the fresh fiber content from sustainable forestry management (FSC/PEFC) and to provide proof of this upon request.

### 6.2 Classification

Refer to examples above. Cardboard boxes shall be classified in accordance with the FEFCO code (DIN EN 14053, DIN EN 14054).

## **6.3 Qualities**

### **6.3.1 Fundamentals**

In general, the quality of corrugated fiberboard agreed on with the Daimler Group shall be complied with (quality standards: DIN 55468, BFSV...). The supplier shall provide the relevant evidence on request by means of test reports. This regulation also applies if the supplier does not produce the paperboard/board or paper or parts thereof itself.

In addition, the material shall be identified with the company code and grade as well as the month and year of production. In the case of brand-specific packaging (e.g. Mercedes-Benz / Print II), the marking shall be applied on the upper, inside dust or tuck flap or, if not possible, after consultation with the Daimler Group, on the bottom, for example.

Designations shall be given in accordance with DIN 55468, e.g.: Corrugated fiberboard, DIN 55468 – 2.95 BAA

### **6.3.2 Product version B4 xxx 20 xxx (corrugated fiberboard)**

Grade quality in accordance with DIN 55468-1. The grammages and flute types indicated shall be complied with. The values for edgewise crush resistance (ECT), bursting strength (BURST), and box compression resistance (BCT) shall be indicated at initial sampling and attain at least the values required. Color natural brown or printed depending on order.

### **6.3.3 Product version B4 xxx 21 xxx (heavy corrugated fiberboard)**

For VDW corrugated board grade 2.90 or higher, or if the order states heavy corrugated fiberboard. Grade quality in accordance with DIN 55468. Wet-resistant corrugated fiberboard shall be designed to be wet resistant in accordance with DIN 55468-2 and bonded to be wet resistant. In addition, wet-resistant packaging shall be manufactured from seaworthy paperboard and provided with the BFSV test stamp "seaworthy packaging".

Self-supporting outer packaging or overpacking shall have a multiflute design and have a load-carrying capacity of at least 15 000 N/m<sup>2</sup> at 23 °C and 50 % rel. humidity (standard atmosphere).

The grammages and flute types indicated shall be complied with. The values for edgewise crush resistance (ECT), bursting strength (BURST), and box compression resistance (BCT) shall be indicated at initial sampling and attain at least the values required. Color natural brown or printed depending on order.

### **6.3.4 Product version B4 xxx 15 xxx (board, solid fiberboard)**

The grammages indicated shall be complied with. Grade quality in accordance with DIN 55429-2 and DIN 19303. The values for the bursting strength (BURST), box compression resistance (BCT), and edgewise crush resistance (ECT) shall be indicated during the initial sampling and achieve at least the values required. Grammage according to order, GD2, outer liner white or printed depending on order, machine-finished.

## **7 Printing, dimensions, and tolerances**

### **7.1 Identification of drawings**

A dimensioned drawing/sketch shall be prepared. Fluctuations due to the production technology used shall be indicated.

### **7.2 Printing for Mercedes-Benz**

For printing tolerances, dimensions, and examples, e.g. with regard to brand identification, refer to the supplier-portal.daimler.com website.

If a box surface exceeds DIN A3 format (297 mm x 420 mm), natural brown board shall be used. For smaller cardboard boxes made of corrugated fiberboard, an outer liner with Print II shall be used provided that the required quality can be produced in Print II. The required linerboard shall be purchased from a supplier authorized by the Daimler Group. In this case, for single-wall types, a paper of the same grammage and type shall be used as an inner liner to prevent subsequent warping.

To optimize the printing of solid fiberboard boxes and papers with Print II, color tolerance charts are available from the relevant packaging planners at [supplier-portal.daimler.com](http://supplier-portal.daimler.com). The values indicated shall be complied with.

### **7.3 Printing for other brands**

For other brands, the print specifications shall be agreed on with the relevant packaging planners.

### **7.4 Corrugated fiberboard**

Dimensional tolerances in accordance with DIN 55429-2 but no more than 3 mm,

Grammage  $\pm 5\%$ ,

Maximum thickness (multi-wall grades shall be composed depending on specification):

- K-flute as per agreement,

Flute heights and spacing in accordance with DIN 55468.

### **7.5 Solid fiberboard, paper**

Dimensional tolerances in accordance with DIN 55429-2 but no more than 3 mm,

Grammage according to order, each  $\pm 5\%$ ,

Thicknesses  $\pm 10\%$ .

## **8 Tests**

### **8.1 Standard folding boxes**

In particular, the following shall be performed:

- Dimensional inspection,
- Testing of thickness (the mean value of at least two measurements at a distance of 50 mm from the cut edges),
- Processing (fold, assembly behavior, uniformity, bonding/stapling, stacking capability, ...),
- Printing (in particular for Print II, color according to color tolerance chart...),
- Product version (design, ...),
- Delivery condition/palleting.

Additional testing by appropriate independent testing institutes accredited by DIN CERTCO:

- Mechanical properties
- Weight per unit area
- Wet strength, if applicable.

### **8.2 Hazardous material folding boxes**

In addition to Section 8.1, test reports and certificates of approval shall be submitted in German and English.

## **9 Samples**

### **9.1 Supply and testing of initial samples before commencement of deliveries**

The supplier shall not be authorized to deliver products to the Daimler Group until after the Daimler Group has approved the product in writing. In addition, the supplier shall provide up to five samples free of charge and forward them freight prepaid to a specified address. The samples shall be neither bent, folded, nor cut apart. The delivery condition of the packaging shall correspond to the subsequent delivery.

The technical data shall be documented on a neutral data sheet and made available to the Daimler Group.

## **9.2 Creation of the sample inspection report by the supplier**

### **9.2.1 Language of the documents**

The documents shall be submitted complete in German or in English.

### **9.2.2 Measurement report**

The measured actual values and the relevant target values as well as the tolerances and standards on which these are based shall be entered in the measurement report, which shall be submitted unprompted by no later than 6 months after series production.

- Material composition and weight per m<sup>2</sup> of packaging
- Total weight of individual packaging
- Test and quality requirements (e.g. stacking capability, transport approval / hazardous materials, see also Section 6.3)
- Dimensions (internal and external) incl. thickness
- Drawing (pdf+dxg) of the packaging
- Design type (classify in accordance with FEFCO code) incl. sealing of packaging
- Material code in accordance with packaging regulations
- Print plan
- Climatic conditions, number of samples, and arithmetic mean values
- Results, other events, and observations
- Date and place of setup

### **9.2.3 Material report**

Material reports shall be submitted by the supplier for all parts for which certain materials or the application of certain DBLs have been agreed on between the supplier and the Daimler Group or for which a material specification of the supplier applies. Note that evidence of freedom from harmful substances in accordance with CEN standards of the delivered product shall be documented and produced on request.

### **9.2.4 Duty to communicate information in accordance with Article 59 of the REACH regulation (Reg 1907/2006/EC)**

To ensure the quality of the articles sold to the Daimler Group, the applicable regulations of the REACH regulation, among others, in particular the duty to communicate information for substances of very high concern (SVHC), shall be complied with.

"SVHC" means substances that are either on the list in accordance with Art. 59 paragraph 1 or in Annex XIV of the REACH regulation.

The Daimler Group does not expect to find any SVHC substance from the list of candidates in concentrations above the permissible limit of 0,1 percent by weight in the article.

We shall be informed if the weight proportion of a SVHC substance exceeds the limit of 0,1% in the article or the packaging per substance, related to the gross weight.

This information shall include as a minimum the name of the SVHC substance concerned and, if necessary, indications for safe use. In this case, we request that we are informed of the

- B4 number,
- CAS number and
- substance concentration

in the article or the packaging.

Special notes on the safe handling of the article shall only be sent to the mailbox "svhc-sicherheitshinweise@daimler.com".



If none of the articles or packagings contains a SVHC substance or if the proportion of the listed SVHC substances in the article is lower than 0,1 percent by weight, a statement is sufficient, according to which the stated quota of 0,1% is not exceeded.

Please ensure that the lists in accordance with Art. 59 paragraph 1 and Annex XIV of the REACH regulation are continuously updated. When a new SVHC substance is listed, the relevant information in accordance with the REACH regulation shall be communicated to us without prompting if the limit of 0,1 percent by weight is exceeded in one of the articles or packagings sold by you.

The confirmation or listing shall be sent to the aforementioned e-mail address as soon as possible.

### **9.3 Delivery of samples**

Sample deliveries shall always be handled separately from production material deliveries. Sample parts shall be addressed separately in suitable transport containers/non-returnable packages to the unloading area indicated by the logistics department of the ordering plant.

The individual initial samples shall be marked with the B4 no. so that the assignment to the test documentation is clear. Initial samples shall be delivered with a separate delivery note that is clearly marked "Initial sample".

In addition, the transport containers/non-returnable packages shall be identified with a transport label.

### **9.4 Statement of the Daimler Group**

After the sample inspection has been completed, the supplier will receive a product approval. Production shall not commence until such an approval has been granted. The tender data / drawings shall remain binding, particularly with regard to the mechanical properties. Approval of the packaging shall not release the supplier from its obligation to provide deliveries that are free of damage.

## **10 Designations**

### **10.1 Designation for identification**

#### **Print II:**

B4 number printed on each cardboard box, alternatively also punched or needled on the upper, inside dust or tuck flap.

#### **Print III and V:**

B4 number printed on each cardboard box on the wide side (face) at the bottom.

In addition, the B4 number shall be affixed as an EAN code 39 barcode without spaces.

An example is shown in Figure 1.



**Figure 1: Example of EAN 39 barcode**

### **10.2 Identification of delivery**

- The B4 number shall be highlighted clearly and shall be marked first together with the number of units and dimensions. Other markings shall be secondary to this.

- The dimensions shall be indicated in the sequence: Length x width x height. That means: Longest edge dimension of box base on the closure side x second edge dimension of the box base on the closure side x height from the base to the closure. Internal dimensions are minimum dimensions. External dimensions are maximum dimensions.
- Description of grades in accordance with DIN 55468, e.g.: "Corrugated fiberboard DIN 55468 – 2.95 – BAA" or DIN 19303 e.g. "Board DIN 19303 GD2" and DIN 55429.
- Pictorial markings in accordance with DIN EN ISO 780 ("Packaging - Distribution packaging - Graphical symbols for handling and storage of packages").
- Previous freight markings shall be removed.
- Markings shall be attached at the long side in dedicated holders (document pockets/label holders) or using four adhesive dots at each corner so that straightforward and residue-free removal is possible. The long side is the flap side for box pallets, for example. Gluing over a wide area is not permitted. The Daimler Group reserves the right to invoice the supplier for any additional costs created by incorrect marking. Wire attachments are not permitted – also in the interest of the prevention of industrial accidents.

**Example:**

<p><b>E.g. B4 ...15 ...</b></p> <p><b>Number of units per load carrier:</b></p> <p><b>Dimensions:</b></p> <p>Quality:</p> <p>Unloading area:</p> <p>In bundles of:</p> <p>Order number:</p> <p>Job number:</p> <p>Date of delivery:</p> <p>Manufacturer (supplier)/date of production/Made in</p> <p>Delivery to: Mercedes-Benz AG, ...</p> <p>Miscellaneous (your ref.)</p>
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**On delivery note:**

- Include B4 number and quantity (total and per pallet)
- If the numbers of units on pallets are unequal, break down pallets on delivery note
- Indicate whether partial or full delivery

**10.3 VDA transport labels**

"Transport labels (barcode scannable) in accordance with VDA 4902/4".

VDA transport labels are not mandatory for packaging deliveries provided that a clear marking is applied in line with the example above. The Daimler Group reserves the right, however, to require a VDA transport label in the event of inadequate marking.

The VDA transport label is shown in Figure 2.

(1) Warenempfänger / Receiver <b>my-Fenix-Software</b> <b>Phoenix-Straße 4711</b> <b>12345 Musterdorf</b>		(2) Abladestelle - Lagerort - Verwendungsschl. / Gate <b>Postfach 123456</b> <b>Tel. 999999</b>	
(3) Lieferschein-Nr. / Advice Note No. (N) <b>2581752</b> 		(4) Lieferantenanschrift / Supplier Address <b>my-VDA-Label, Musterplatz, 12345 Musterdorf</b>	
		(5) Gewicht netto / Net Weight <b>370 kg</b>	(6) Gewicht brutto / Gross Weight <b>400 kg</b>
		(7) Anz. Pack. / No. Boxes <b>1</b>	
(8) Sach-Nr. Kunde / Part No. (P) <b>765-HGD89-123</b> 			
(9) Füllmenge / Quantity (Q) <b>140</b> 		(10) Bezeichnung, Lieferung, Leistung / Description <b>Geblaese</b>	
		(11.1) Sach-Nr. Lief. / Supplier Part No. (305) <b>0-123B10-0</b> 	
(12) Lieferanten-Nr. / Supplier No. (V) <b>4638141</b> 		(11.2) Packmittel-Nr. Kunde / Package Reference No. (B) <b>6099012</b> 	
(15) Packstück-Nr. / Serial No. (S) <b>258175201</b> 		(13) Datum / Date <b>D 171121</b>	(14) Änderungsstand Konstruktion / E. Change <b>A43-275 XL</b>
		(16) Chargen-Nr. / Batch No. (H)  C123	

Figure 2: VDA transport label (example)

## 11 Delivery

### 11.1 Fundamentals

The contractually agreed-on terms of delivery shall be fulfilled. The delivery of the goods, in particular with regard to the unloading area, see Table , shall be clarified with the relevant plant. In the event of any violation of this stipulation, the Daimler Group reserves the right to invoice the supplier for any extra costs or expense.

### 11.2 Maximum delivery heights (incl. pallet)

The delivery condition shall be reconfirmed with the receiving plant before delivery.

The unloading areas are listed in Table 3.

Table 3: Overview of unloading areas

Plant number	Plant name	Unloading area	Maximum delivery height
006	GLC	905 (76725 Germersheim)	1,00 m for prepackaging
		930 (76725 Germersheim)	2,00 m for shipping packaging
		922I Schreinerei (76725 Germersheim)	
		935 (76725 Germersheim)	
	Hatten	561 (F 67690 Hatten, <b>France</b> )	1,00 m
	Offenbach	104 (76877 Offenbach)	2,00 m
	Ettlingen	002 (76275 Ettlingen)	2,00 m
		005 (76275 Ettlingen)	
	External service providers	896 (76571 Gaggenau)	1,00 m for prepackaging
		937 (76467 Bietigheim)	
938 (76863 Herxheim bei Landau)		2,00 m for shipping packaging	
934 (68309 Mannheim)			
014 (76461 Muggensturm)			
690 (76742 Wörth)			

		687 (76742 Wörth)	
010	UT	509 (71711 Murr)	1,00 m
010 (00, 019, 096)	UT, Brühl, Möhringen	688 (CKD bodyshop, 28197 Bremen)	1,00 m
020_DT	Mannheim	177 (68305 Mannheim)	2,00 m
025_DT	Gaggenau	501 (76571 Gaggenau)	1,00 m for prepackaging
		501 (76571 Gaggenau)	2,00 m for shipping packaging
040	Berlin	004 (12277 Berlin)	1,00 m
050	Sindelfingen	049 (BLG 28197 Bremen, 092 (71106 Magstadt), 094 (GWW 75382 Althengstett) 410 (77836 Rheinmünster)	1,00 m for prepackaging
			2,00 m for shipping packaging
060_DT	Wörth	CKD 803 (76742 Wörth)	1,00 m for prepackaging
		CKD 803 (76742 Wörth)	2,00 m for shipping packaging
065	Düsseldorf	422 (40476 Düsseldorf)	1,00 m on pallet
		422 (40476 Düsseldorf)	1,80 m otherwise
067	Bremen	025 (28309 Bremen)	1,80 m
068	Hamburg	232 (21079 Hamburg)	1,00 m
069_DT	Kassel	269 (34127 Kassel)	1,20 m for prepackaging
		169 (34127 Kassel)	1,20 m for shipping packaging
158	Barcelona	661 (E 08635 Sant Esteve Sesrovires)	1,80 m
260	LC Hannover	170 (30453 Hanover)	1,00 m
262	LC Nürnberg	172 (90768 Fürth)	1,00 m
264	LC Mainz	174 (55268 Nieder-Olm)	1,00 m
263	LC Reutlingen	173 (72770 Reutlingen)	1,00 m
261	LC Cologne	161P (50259 Pulheim)	1,00 m

### 11.3 Packaging

Unless otherwise agreed on (e.g. assembled), cardboard boxes shall be supplied in flat packed condition.

### 11.4 Load carriers

Coordination with regard to type, filling, and packaging with the receiving plant.

### 11.5 Palleting

Small cardboard boxes (solid/corrugated fiberboard) in bundles of 10, 20, 25, or 50 units: Bundles inserted alternately in overpack. Overpack on pallet, if possible max. 600 x 800 x 500 mm (or half the pallet size) or systematically smaller.

Larger cardboard boxes (corrugated fiberboard): Reasonable bundle sizes alternately on pallet.

Pallets shall always be secured (e.g. by strapping, wrapping with stretch film), whereby any damage to the upper layers, in particular, and in general any soiling shall be prevented (e.g. by means of cover pallet, wrapping with stretch film, protective paper layers, corrugated fiberboard top and bottom).

Care shall also be taken to ensure that pallets are largely dry, i.e. they shall not release any significant moisture in the event of damage to the packaging. This means in general that their residual moisture content shall be below 20 %. Euro pallets or, in exceptional cases following agreement with the Daimler Group, the format 1000 x 1200 mm or presized pallets with identical quality shall be used.

**Packaging for hazardous goods shall be considered separately during palleting.**

As hazardous goods packaging is subject to stricter demands (BAM), all visible changes/damage on the outsides, for example, shall be avoided.

For hazardous goods packaging that exceeds the dimensions of the required Euro pallet, a wooden pallet adapted in size and of the same type and quality shall be used in order to comply with the legal requirements.

Furthermore, when securing pallet stacks by strapping or wrapping with stretch film, particular attention shall be paid to avoid damage.

**11.6 Shelf life**

The goods shall be delivered dry and secured. Goods on pallets / load carriers shall not have any overhang. Damage-free handling by industrial trucks shall be ensured.