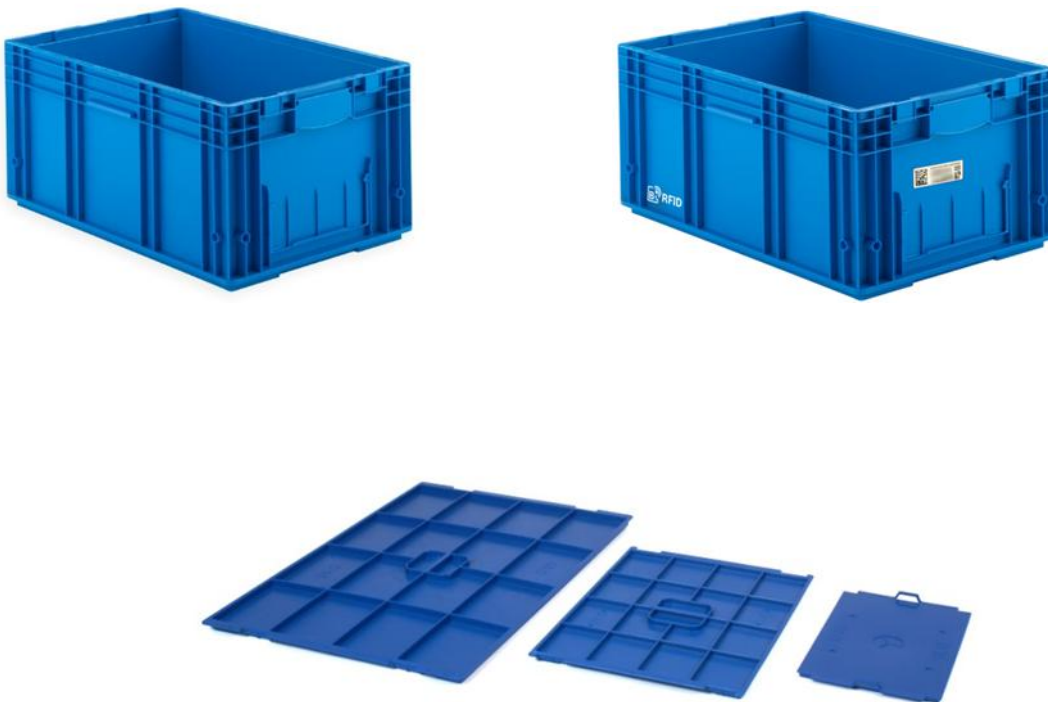


Recommendation

Small Load Carrier (KLT) System

VDA 4500

Version 3.1, December 2025



To optimize the logistics chain between automobile manufacturers, suppliers, and service providers, the German Association of the Automotive Industry (VDA) has developed a standardized small load carrier (SLC) system that can be handled mechanically and manually. It is modularly designed to fit the base areas 1200 x 800 (Euro) and 1200 x 1000 (ISO) and is a universally applicable, poolable system.

The VDA KLT system aims to conserve resources and increase efficiency in logistics through standardized, automatable, and ergonomically designed containers. It ensures safe transport, protects the load and enables flexible and space-saving empties logistics through pooling and cross-manufacturer compatibility. Uniform quality standards and recyclability also ensure sustainability and reliability throughout the entire system.

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The document is a translation of the German version. Therefore, the German document represents the original and should be referenced in case of discrepancies. Due to the fact that this document is a translation, it may be the case that the English text leaves room for interpretation because certain terms are often deeply rooted in the original language, and therefore it is not possible to translate them into another language without a certain degree of ambiguity arising.

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Terms and abbreviations

Acronym / Term	Description
KLT	small load carriers: open containers designed for bulk and placeable goods (max. footprint 600x400 in accordance with VDA 4500 and EN 13199)
R-KLT	„Redesign“-small load carriers: modification/system extension to meet requirements of modern supply chains
Features: Single-walled KTL design, rigid, filling weight up to 20 kg; interlocking base	

RL-KLT	„Redesign-Light“- small load carriers: modification/system extension to meet requirements of modern supply chains
Features: Single-walled KTL design, rigid, filling weight up to 20 kg; smooth base	

F-KLT	„Folding“- small load carriers: modification/system extension to meet requirements of modern supply chains
Features: Folding, doublewalled, filling weight up to 20 kg, interlocking base	

C-KLT	„Classic“- small load carriers (special load carrier)
Features: Double-walled KTL design, rigid, filling weight up to 50 kg; interlocking base	

In this recommendation, all KLT types are classified by specific VDA type numbers	
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VDA-Universal-KLT	are VDA R-KLTs, VDA RL-KLTs and VDA F-KLTs with: • function areas separated from the useful space • material properties suitable for universal use (as specified in this recommendation) • defined type numbers
Special-KLT	are containers developed on the basis of Universal KLTs and designed for special purposes; they might be equipped with • functional elements and similar features (e.g. boreholes in base for the mechanical lifting of inserts, etc.) extending into the useful space and/or feature • special material properties • C-KLTs
Carrier pallet	Rigid, low-profile horizontal platform that can be taken up by forklifts, lift trucks and other suitable equipment; serving as a platform for combined goods and loads for stacking, storage, handling and transportation
Loading unit / container	Load consisting of objects and packages and held together by auxiliary equipment to form a unit that can be stacked, stored and transported (e.g. carrier pallet, multiple KLTs, loading unit cover plate)
Loading unit cover plate (A 1208-1 und A 1210)	System element designed to safeguard and protect the load, ensuring even load distribution in stacks, with securing function

Acronym / Term	Description
KLT-lid (D65, D45 und D35)	Flat system element for R-KLTs and RL-KLTs to protect the goods Note: For R-KLTs and RL-KLTs, identical KLT lids (D65, D45, D35) in RAL 5005 are used.
Securing plate (SP 1208)	Flat system element to secure R-KLT or F-KLT loading units on standard wooden pallets (1200 x 800 or 1200 x 1000); securing plates cannot be used with RL loading units.

1 Introduction / objective

To optimise the logistics chain in the automotive manufacturing and supply industry, VDA CoC Packaging has developed a standardised plastic small load carrier system for bulk and placeable goods suitable for mechanised or manual handling (known as KLT, the abbreviation of the German name KleinLadungsTräger) that is adapted in modular fashion to fit 1200 x 800 Euro modules and 1200 x 1000 ISO modules and represents a universal, poolable system.

With this step, the following objectives are achieved:

- Protection of resources and reduction of waste by eliminating external and internal as well as disposable packaging
- Rationalisation of transport, warehousing and conveyor technology by using standardised designs
- Improved work conditions thanks to ergonomic design of KLTs
- Improved safety thanks to interlocked stacking of form-fitting containers (R-KLT), doing away with stretch wrapping, shrink wrapping and strapping
- Provision of containers suitable for automated filling and emptying
- Quality assurance of cargo
- Reduction of storage and provision areas in supply industry thanks to "user pool" system
- Enhanced flexibility in the supply of empty containers
- Specification of uniform system features for KLTs intended for special purposes
- Consistent KLT quality across products from all KLT manufacturers thanks to defined approval procedure with approval numbers
- Cross-manufacturer compatibility
- Easy recycling of damaged system elements as KLT manufacturers are obliged to take back KLTs

System structure

Reusable packaging represents a significant asset for the pool owner. Therefore, it must be possible to identify it in all steps of the container management process, and a minimum amount of defined master data must be available to support the processes.

1.1 VDA KLT system description, nominal dimensions and weights

1.1.1 System description

The VDA KLT system consists of VDA Universal KLTs on 1200 x 1000 Euro carrier pallets and VDAA 1210 loading unit cover plates, or VDA Universal KLTs on 1200 x 800 Euro carrier pallets and VDAA 1208-1 loading unit cover plates.

For non-system packages, we recommend carrying out a separate functional check.

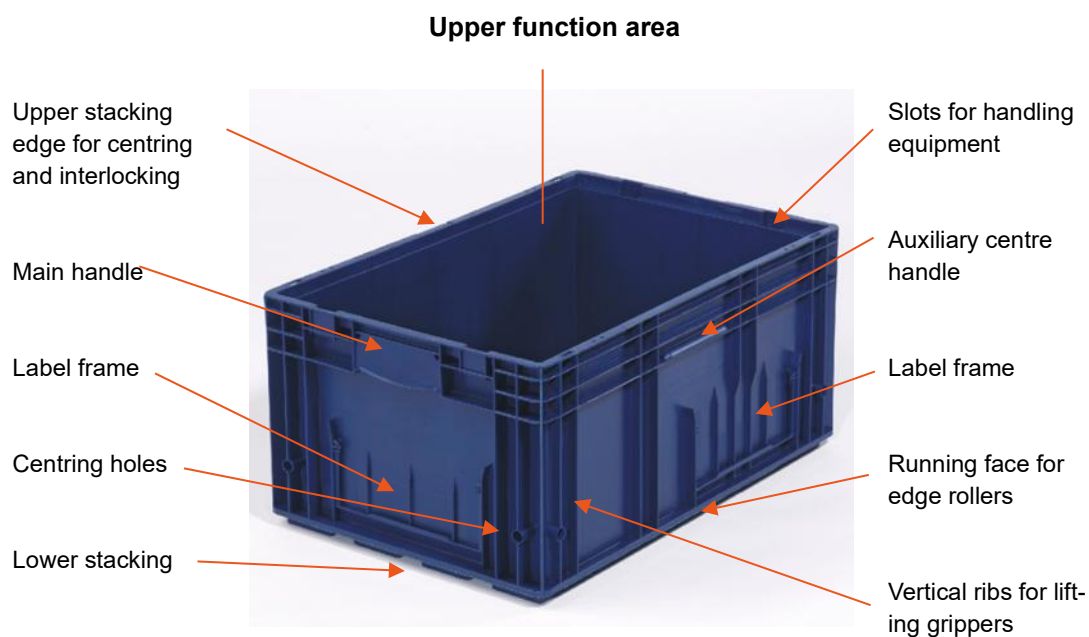
The VDA Universal-KLTs bear a permanently visible type number on the two long sides. Carrying handles and label frames are separated from each other. Exceptions: R-KLT and RL-KLT of 147.5 mm in height. In these KLTs, the label frames are integrated into the carrying handles at the short (front) side.

KLTs produced with VDA Universal KLT moulds and in a colour other than those described in sections 2.2.2 to 2.2.6 may not be marked with a VDA approval number according to 2.3.1.

1.1.2 VDA R-KLT-System

Short name	Nominal dimensions L x W x H (mm)	Colour L*: 29,936 A*: -0,125 B*: -15,756	Capacity (dm ³)		Weight (kg)	Filling weight (kg)	Top load (kg)
			outside	inside			
6429 – KLT	600 x 400 x 280	RAL 5003	65	48	2,97	20	600
6422 – KLT	600 x 400 x 213	RAL 5003	51	34,9	2,60	20	600
6415 – KLT	600 x 400 x 147	RAL 5003	35	22	2,10	20	600
4329 – KLT	400 x 300 x 280	RAL 5003	33	22	1,85	20	600
4322 – KLT	400 x 300 x 213	RAL 5003	25,5	16,2	1,61	20	600
4315 – KLT	400 x 300 x 147	RAL 5003	17	10	1,29	20	600
3215 – KLT	300 x 200 x 147	RAL 5003	8,7	5,3	0,57	20	400
D65 – Deckel	600 x 400	RAL 5005			0,67		
D45 – Deckel	400 x 300	RAL 5005			0,27		
D35 – Deckel	300 x 200	RAL 5005			0,09		

Table 1: VDA R-KLT-System



Lower function area

System interlocking base for 600 x 400 and 400 x 300 with stacking feet and stacking grooves for centring and securing

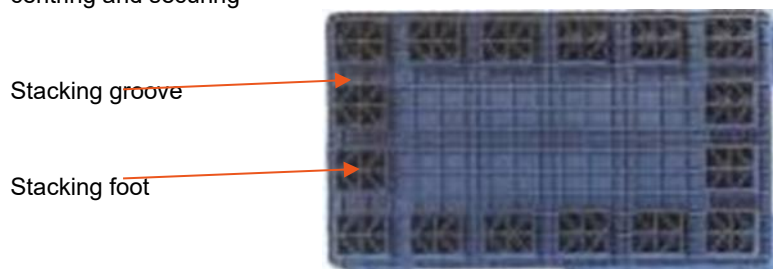


Figure 1: R-KLT: Upper and lower functional space

One of the distinct features of the VDA R-KLT system is the interlocking base. The stacking feet distributed over the container base ensure stability of the container on any surface. When R-KLTs are stacked in an offset manner, the R-KLTs are interlocked by the feet. The base ribs and the stacking feet provide functional safety of the filled containers storage, transport and conveyor equipment (see section 4.2). With 600 x 400 ISO modules, the interlocking base allows for self-secured stacking on 1200 x 1000 ISO pallets by placing the R-KLTs crosswise on top of each other (see section 4.2).

Lid, sealable

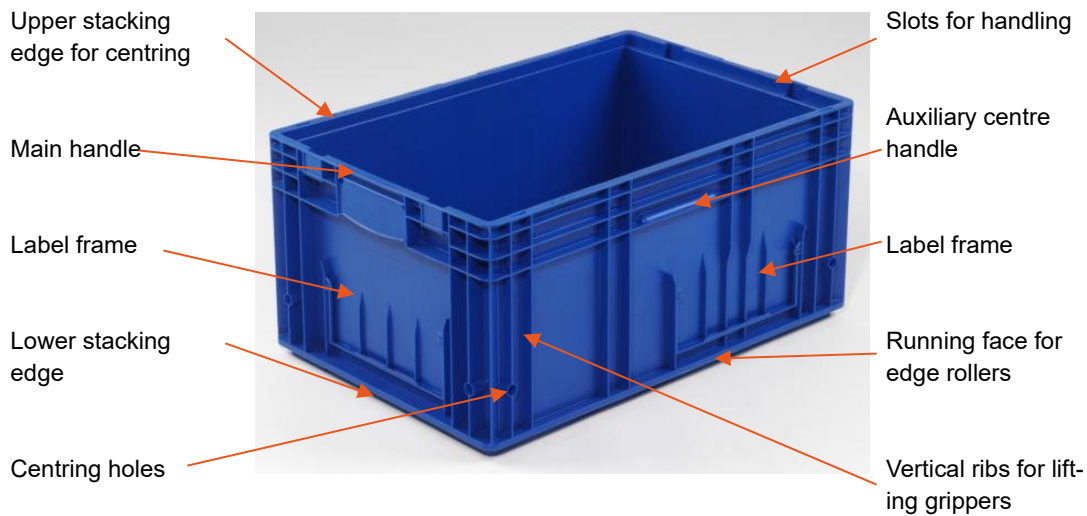


1.1.3 VDA RL-KLT-system

Short name	KLT nominal dimensions L x W x H (mm)	Colour L*: 38,320 A*: -5,295 B*: -31,823	Capacity (dm ³)		Weight (kg)	Filling weight (kg)	Top load (kg)
			outside	inside			
6280 – KLT	600 x 400 x 280	RAL 5005	65	51,9	2,67	20	600
6213 – KLT	600 x 400 x 213	RAL 5005	51	38,9	2,27	20	600
6147 – KLT	600 x 400 x 147	RAL 5005	35	25	1,82	20	600
4280 – KLT	400 x 300 x 280	RAL 5005	33	24,1	1,7	20	600
4213 – KLT	400 x 300 x 213	RAL 5005	25,5	17,9	1,42	20	600
4147 – KLT	400 x 300 x 147	RAL 5005	17	11,8	1,08	20	600
3147 – KLT	300 x 200 x 147	RAL 5005	8,7	5,3	0,57	20	400
D65 – Deckel	600 x 400	RAL 5005			0,67		
D45 – Deckel	400 x 300	RAL 5005			0,27		
D35 – Deckel	300 x 200	RAL 5005			0,09		

Table 2: VDA RL-KLT-system

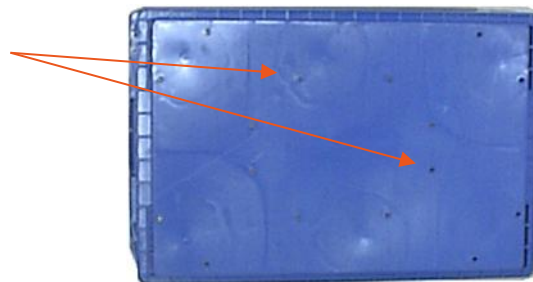
Upper function area



Lower function area

Smooth base with drainage holes (EXCEPT in RL-KLT 3147)

Drainage holes
(**NOT** in RL-KLT 3147)



Lid (sealable)



Figure 2: RL-KLT: Upper and lower functional space

1.1.4 Special features of VDA R-KLT and RL-KLT 3215 and 3147 (300 x 200)

The VDA R-KLT 3215 and the VDA RL-KLT 3147 are identical in design. Both KLTs feature smooth bases without drainage holes and only differ in colour. This means that only one certification is required for each mould and manufacturer.



Lid D35



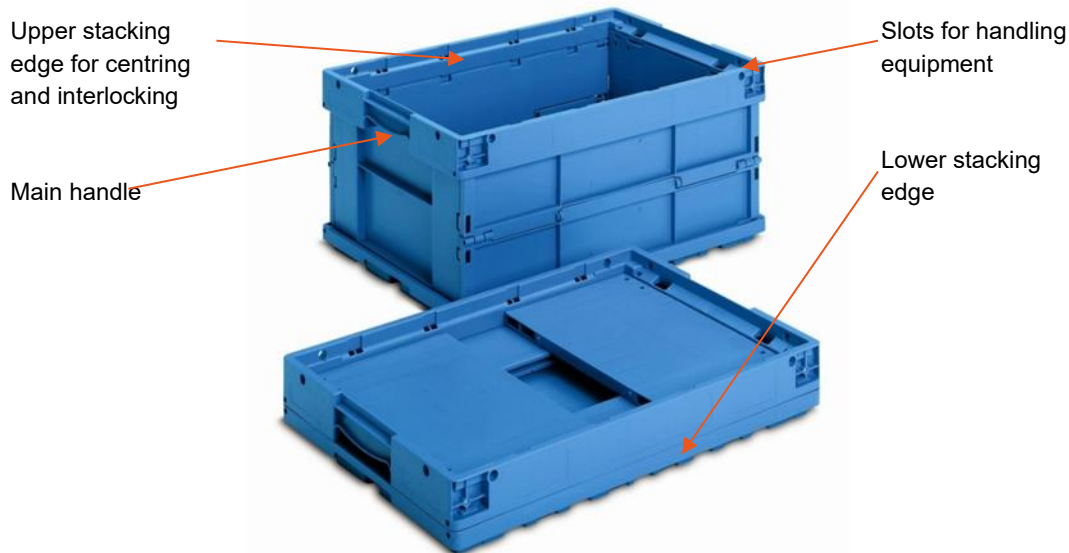
Figure 3: Special features of the R- and RL-KLT 3215 and 3147

1.1.5 VDA F-KLT-System

Short name	KLT nominal dimensions L x W x H (mm) outside/folded	Colour
6410	600 x 400 x 280 600 x 400 x 94,5	RAL 5012

Short name	Dimensions L x W x H (mm)		Volumen (dm ³)		Empty weight (kg)	Filling weight (kg)	Top load (kg)
	outside / folded	inside	outside / folded	inside			
6410	600x400x280 / 600x400x94,5	535x357x257	65 / 22,5	46	3,4	20	250

Upper function area



Lower function area

System interlocking base with stacking feet and stacking grooves for centring and securing

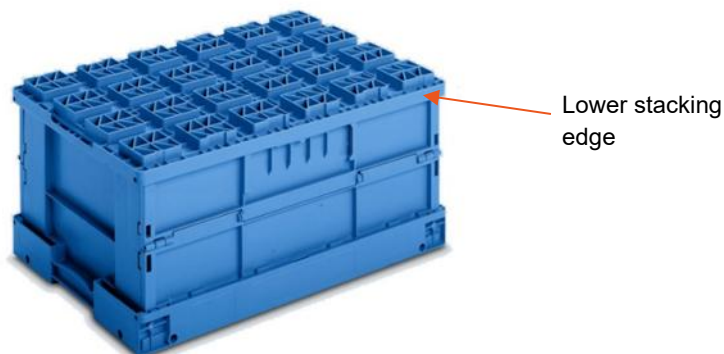
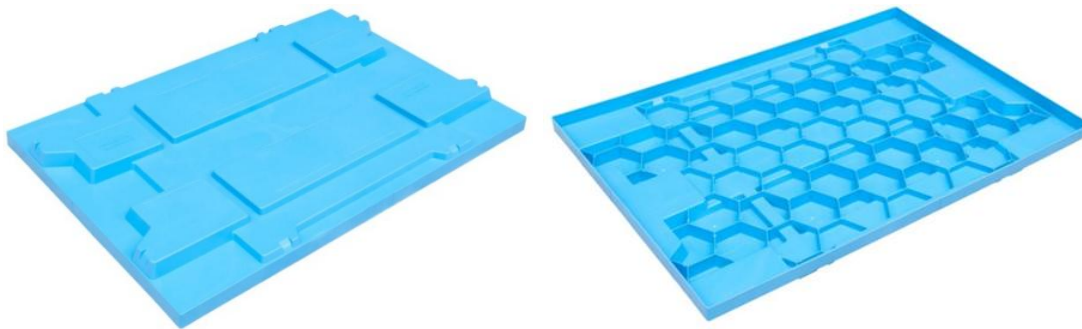


Figure 4: F-KLT: Upper and lower functional space

1.1.6 Other system elements

Short name	Designation	Colour	Nominal dimensions L x B x H (mm)	Tare (kg)
A 1208-1	Loading unit cover plate for 1200 x 800 pallet	RAL 5012	1200 x 800 x 84	5,15
A 1210	Loading unit cover plate for 1200 x 1000 pallet	RAL 5012	1200 x 1000 x 67	9,35
SP 1208	Securing plate for securing load on 1200 x 800 pallet	RAL 5012	1200 x 800	3,88

VDA loading unit cover plate A 1208-1



VDA loading unit cover plate SP 1208-1 (Securing plate)

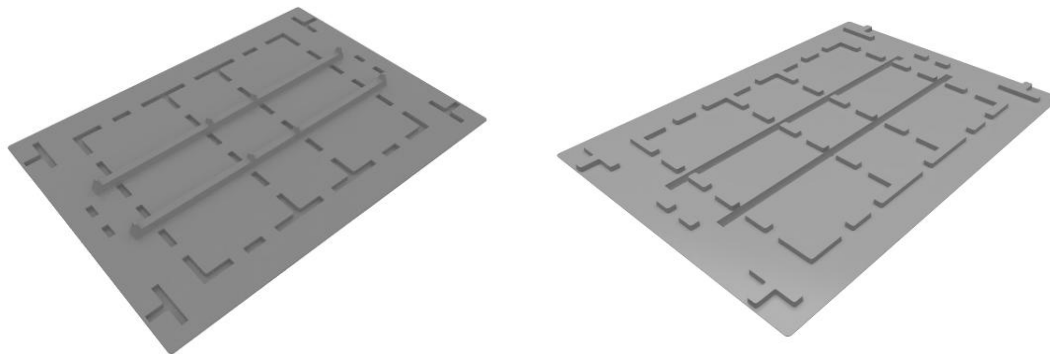


Figure 5: Loading unit cover plate A1208-1 and SP 1208-1

1.2 Identification / marking

1.2.1 System elements

The following data is embossed into the VDA R-KLTs and VDA RL-KLTs during production:

Data	Form	Embossing position
1a. R-KLT type-no. 1b. RL-KLT type-no.	e.g. 6429 e.g. 6280	on both long sides
2. Tare weight	in kg, with 2 decimal places, e.g. 3.30 kg	on both long sides
3. VDA KLT- manufacturer name	Name and/or logo	1x for all KLT types: on long side opposite label frame (except for 3215 and 3147, only on the long wall)
4. Date of manufacture	Numerical; e.g. date stamp: month, year	1x for 3215, 3147: Front side to the right of label frame 4147, 4315, 4213, 4322, 4280, 4329: Long side opposite label frame 6147, 6415, 6213, 6422, 6280, 6429: Long side with label frame
5. Approval number (see section 10)	Alphanumeric, in circle, superimposed Conforming to BQF ^{1*}) (see footnote ^{2*})	1x for all KLT types: on long side opposite label frame
6. Environmental protection and recycling symbol	According to DIN 6120-2:2019-03 and DIN EN ISO 14021:2021-10	1x for 3215, 3147 4147, 4315, 4213, 4322, 6213, 6422: Long side opposite label frame 4280, 4329, 6147, 6415, 6280, 6429: Long side with label frame
7. Recycled Content	see DIN 6120 (REC+ percentage)	Below Möbius strip

Table 3: Marking - system elements

(^{1*}BQF: Procurement Source Approval (BezugsQuellenFreigabe): approval by VDA Logistics Department. Relates to the release, publication and procurement of information on system elements that have been approved, recommended and certified in accordance with VDA 4500 or other standards.



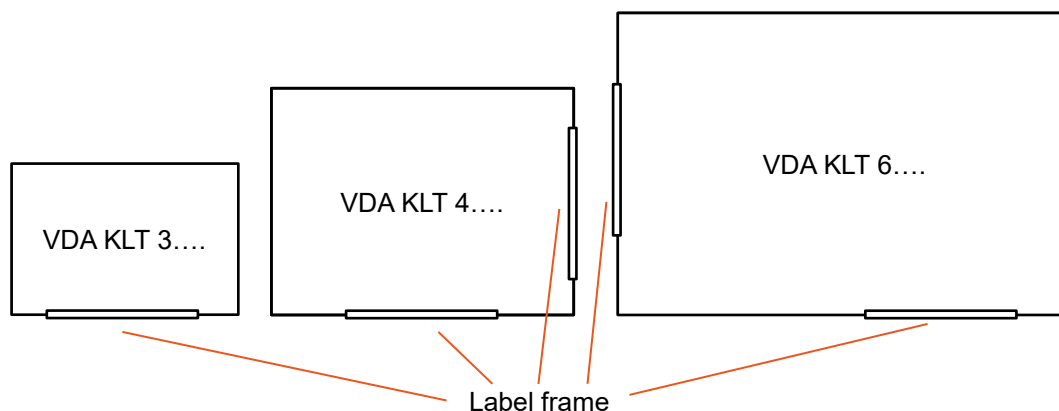
The following data is embossed into the VDA KLT lids and the loading cover plates during production:

Data	Form	Embossing position
1. Lid-Typ	D65	Top side
2. Tare weight	in kg, with 2 decimal places, e.g. 0.67 kg	Bottom side
3. VDA KLT manufacturer name	Name and/or logo	Bottom side
4. Date of manufacture	Numerical; e.g. date stamp: month, year	Bottom side
5. Environmental protection and recycling symbol	According to DIN 6120-2 and DIN EN ISO 14021	Bottom side

1.2.2 Goods

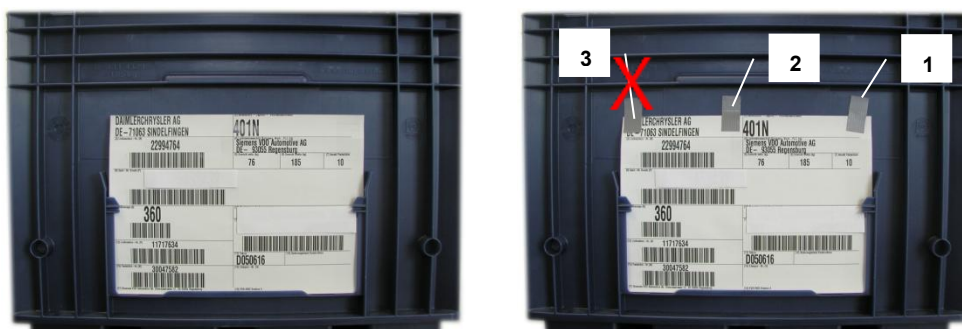
The goods must be identified by means of VDA product tags in accordance with VDA Recommendation 4902 (latest version).

Schematic depiction of label frame positions



Only self-adhesive and residue-free removable product tags and adhesive-free insert labels may be used. For further information, see VDA 4994 (GTL).

The product tag must be inserted into the card pocket and, if necessary, secured with a maximum of two weather-resistant adhesive strips or dots that can be removed without leaving any residue (items 1 and 2 in figure). Adhesive strips measuring 30 mm x 15 mm or adhesive dots with a diameter of 19 mm are recommended. The adhesive strips/dots must not cover any important information (see item 3 in figure), the dimensions and layout of the card pocket are also suitable for machine reading of documents.



1.3 Special-KLT

VDA Special-KLTs are containers made with VDA-certified moulds. They differ mainly in the following features:

- They must be identified by a colour that is clearly distinct from RAL 5003 and 5005.
- These containers are not subject to VDA inspection requirements and VDA monitoring (VDA CoC Packaging). The VDA Special KLTs must not bear a VDA approval number.

C-KLTs are also classified as special KLTs. As a result of the past development of the VDA KLT system elements, they bear however an approval number and come in the specified colour RAL 5012.

1.4 Changes

Proposals for modifications to the VDA KLT system elements or VDA Recommendation 4500 must be submitted to VDA CoC Packaging for consideration and approval.

2 Quality requirements

2.1 Materials

In order to maintain consistent quality, all certified KLT manufacturers are obliged to use only polypropylene copolymers for all VDA KLT system elements. The use of foamed plastics is prohibited.

Certified KLT manufacturers are obliged to take back damaged VDA KLT system elements for recycling. Users are also entitled to hand over containers for recycling. Containers for recycling must be free of foreign objects (e.g. metal elements, adhesive labels, etc.) and oil and generally clean.

Recycled content

The proportion of recycled material in the total material must comply with current regulatory requirements (e.g. PPWR) and be marked on the container (see section 1.3.1.).

UV stabilization control

All plastics must be UV-stabilised.

When using copolymer PP, UV stabilisation must be carried out in such a way that the delivered product contains at least 0.1% low-molecular hindered amine light stabilisers (HALS) and 0.1% high-molecular HALS.

2.2 Testing

The finished VDA KLT system elements must meet the following quality and testing requirements:

Dimensional inspection

The currently valid drawings can be requested from the VDA (Logistics Department). In addition, 3D STEP files of the KLT are provided on request by the VDA office exclusively for plant manufacturers and packaging manufacturers.

These STEP files are symbolic and not working files, the files are provided for reference purposes only and therefore there is no warranty obligation!

Drop test for VDA loading unit cover plate – temperature: (+ 23 ± 2) °C

A drawing including a 3D representation of the test device can be requested from the VDA upon request for the construction of the test facility.

Crushing pressure test

Required minimum crush strength:

R-KLT	RL-KLT	break load value
6429	6280	2600 daN
6422	6213	2800 daN
6415	6147	3000 daN
4329	4280	2900 daN
4322	4213	3100 daN
4315	4147	3600 daN
3215	3147	2000 daN

Inspection of colour

The colour must be inspected in accordance with the RAL colour codes specified in the recommendation. This inspection must be performed on VDA KLTs immediately after production.

The following tolerance limits apply to VDA R-KLTs and RL-KLTs:

R-KLT

ΔL^*	-1,7	+1,7	(lightness)
Δa^*	-1,7	+1,7	(- green / + red)
Δb^*	-3,4	+3,4	(- blue / + yellow)

The colour inspection must be performed under the following conditions:

- TL84 light (F11 - fluorescent light)
- Spectrophotometer with sphere geometry d/8°
- 10° normal observer
- Reference: RAL colour cards
- Measuring point: on side panel (see dimensional reference drawing)

The use of non-certified references such as colour fans is not permissible.

The material properties for electrostatic dissipative VDA KLT system elements are regulated in VDA Recommendation 4504.

2.3 Testing institutes

Approved testing institutes:

- SKZ Würzburg, Friedrich-Bergius-Ring 22, 97076 Würzburg
- Fraunhofer Institut Materialfluss u. Logistik, Josef-v.-Fraunhofer-Str. 2-4, 44227 Dortmund
- SCUS GmbH, Heidelbergerstraße 20, 01189 Dresden
- VDZ GmbH, Giselherstraße 34, 44319 Dortmund

Standardised check list for testing institute verification:

The standardised check list for the verification of testing institutes by authorised representatives of VDA Verpackungsstandardisierung is available on request from VDA.

2.4 VDA-KLT manufacturers

The list of certified manufacturers can be found on the TÜV Rheinland – DIN CERTCO website at the following link: [list of certified manufacturers of VDA-KLT-System](#)

3 Modular design

3.1 Height grid

The following requirements were taken into account for the definition of the KLT heights:

- Uniform insertion depth of 15 mm
- Matching layer heights when containers of different KLT heights are stacked together
- Compliance with standard loading unit dimensions when using standard pallets of 150 mm in height and loading unit cover plate of approx. 40 mm in height = total useful height 810 mm

The following 3 height grids have been defined for the VDA KLT system:

147,5 mm 213 mm 280 mm

(for 300 x 200 base module, only use 147.5 height grid).

3.2 VDA R-KLT interlocking layers on 1200 x 1000 carrier pallets

For the internal and external transport of multiple layers of stacked VDA R-KLTs on 1200 x 1000 ISO carrier pallets, the self-securing interlocking system of the elements is of major benefit (exception: 3215 with smooth base). In line with DEKRA assessments AG70/2008-18567 of the 14/05/2008 and 28645/2012/1811793960 of the 18/01/2012 (see annex 1.1), VDA recommends securing such loads with a loading unit cover plate. Examples of stacks are shown below.

For design reasons, F-KLTs do not have rigid long sides when in upright position. They therefore have a lower permissible top load than the other VDA KLT types. For safety reasons

(monitoring, compliance with permissible top loads, etc.), interlocked stacking of upright F-KLTs is not recommended.

Number of layers per VDA R-KLT height:

Height [mm]	Stack height without pallet and securing plate
147,5	6 layers = 810 mm
213,75	4 layers = 810 mm
280	3 layers = 810 mm

R-KLT 6429

600x400 module



Only R-KLT 600 x 400 and 400 x 300 are suitable for interlocked stacking.

R-KLT 6429

600 x 400 module combined with 400 x 300 module



Interlocked stacking only with 600 x 400 on top of 400 x 300, and not vice versa

The defined height grids of the VDA R-KLTs allow for mixed stacking in layers of the same height or to a stack height of 810 mm on standard load units in various combinations.

3.3 Column stacking of VDA Universal-KLTs on 1200 x 1000 and 1200 x 800 carrier pallets

On 1200 x 800 Euro modules, only one VDA R-KLT column stack is possible. Due to their smooth bases, VDA RL-KLTs and VDA R-KLTs 3215 can generally only be used for column stacking on both footprints.



Number of layers per VDA RL-KLT height:

Height [mm] Stack height without pallet and securing plate

147,5	6 layers = 810 mm
213,75	4 layers = 810 mm
280	3 layers = 810 mm

Column stacking of RL-KLTs, e.g. on low-profile Euro pallet with A1208-1 loading unit cover plate

4 Handling and loading unit securing

4.1 Manual handling

The ergonomically formed main handles that have been optimised so as not to reduce the capacity of the container are designed as a sub-grip handle and are located on the front sides of the KLT function areas.

4.2 Mechanised handling (Automation)

Due to the continuous development and optimization of the VDA KLT system (container lid, loading unit end cap), minor deviations in the design features (see section 1.1) are possible.

Therefore, the use of centering holes and slotted holes for handling devices is recommended for the use of handling and automation technology. The dimensions and positions of the slotted holes can be found in the inspection drawing.

Different historical system features

Loading unit cover plate A 1208, A 1208-1

- Different height and thickness
- Different design

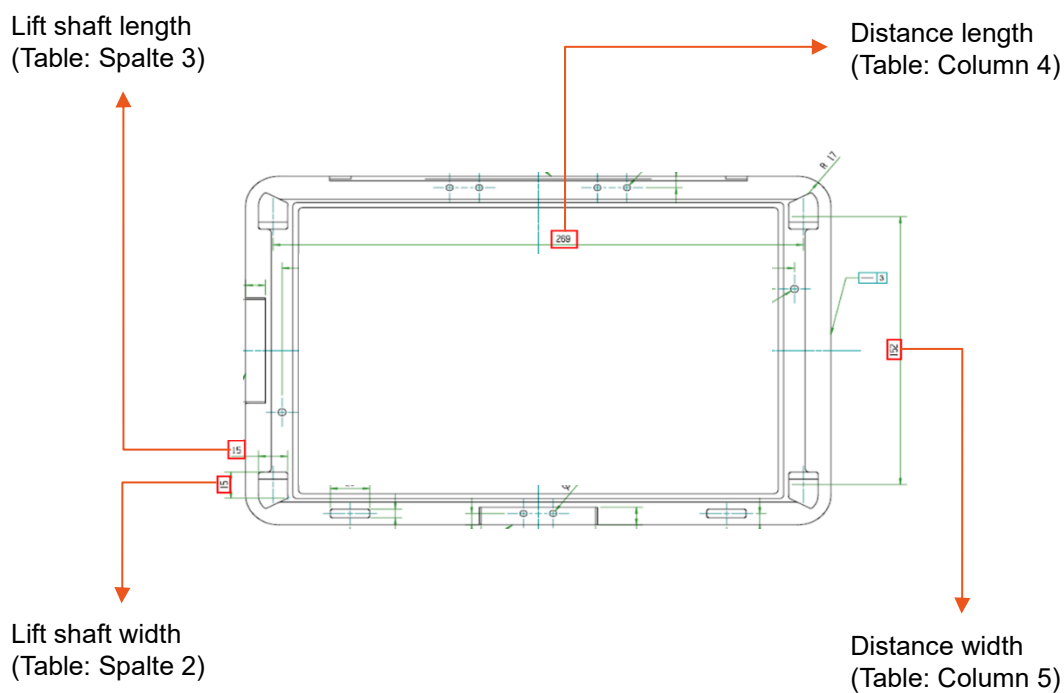
Different system features for KLTs

- Different handles (short, long handle)
- Slotted holes for handling devices
- Different hole pattern (drain holes)
- Different document holder positions (center, right)
- Different rib structures (e.g., additional rib)

Variant	Lift shaft width (in mm)	Lift shaft length (in mm)	Distance length (in mm)	Distance width (in mm)
3147-3215	14,75-15,75	14,65-15,85	267,20-270,60	151,45-154,75
4315	15,00-16,25	29,58-30,62	367,70-372,80	208,55-212,45
4322	14,75-15,50	29,68-30,92	366,20-370,90	209,05-212,45
4329	14,75-15,75	29,58-30,62	366,80-370,80	208,15-212,45
6415	14,75-15,55	29,58-30,72	562,10-570,50	209,35-212,45
6422	14,75-15,55	29,58-30,72	562,10-569,50	208,85-212,45
6429	14,55-15,25	29,58-30,52	563,10-271,00	208,85-212,45
4147	14,75-16,25	29,58-30,62	367,00-371,80	208,55-212,45
4213	14,75-16,25	29,58-30,52	366,20-371,80	209,05-212,45
4280	14,75-15,75	29,58-30,62	366,80-370,80	208,15-212,45
6147	14,75-15,55	29,58-30,72	562,10-570,50	209,35-212,45
6213	14,75-15,25	29,58-30,52	562,50-570,50	208,85-212,45
6280	14,75-15-25	29,58-30,62	563,50-571,00	208,45-212,45
6410	14,25-14,75	29,58-30,42	550,00-557,00	209,55-212,45

Table 4: Tolerances for lift shaft per variant

Applies only to tools up to No. R0195, 2015-07-01. For tools from R0196, 2015-07-02, the drawings and tolerances valid at the time of manufacturer approval apply.

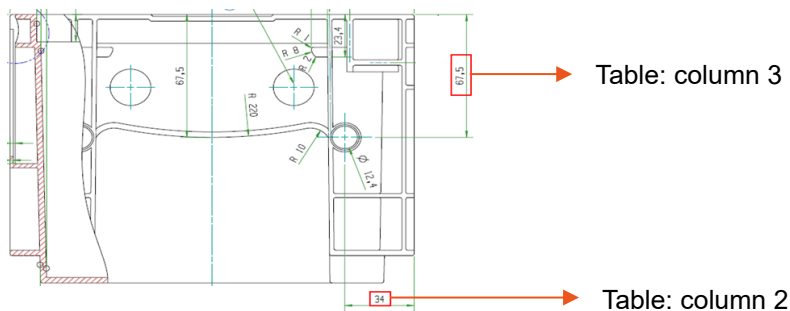


Variant	Mounting Short side (in mm)		Mounting Long side (in mm)	
3147-3215	33,28-34,42	66,90-68,20	33,00-34,50	66,90-68,20
4315	33,40-34,45	79,40-80,60	33,20-35	66,90-68,10
4322	33,30-34,50	79,10-80,60	33,50-34,90	132,50-135,25
4329	33,40-34,50	79,40-80,60	33,20-35,00	79,40-80,60
6415	33,50-34,50	79,40-80,60	33,50-34,50	66,90-68,10
6422	33,40-34,50	79,30-80,60	33,40-34,50	132,50-135,25
6429	33,50-35,00	79,40-80,60	33,50-35,50	198,55-201,95
4147	33,40-34,50	79,40-80,60	33,20-35,00	66,90-68,10
4213	33,30-34,50	79,10-80,60	33,50-34,90	132,50-135,25
4280	33,40-34,50	79,40-80,60	33,20-35,00	79,40-80,60
6147	33,50-34,50	79,40-80,60	33,50-34,50	66,90-68,10
6213	33,40-34,50	79,10-80,60	33,40-34,50	132,50-135,25
6280	33,50-35,00	79,40-80,60	33,50-35,50	198,55-201,95

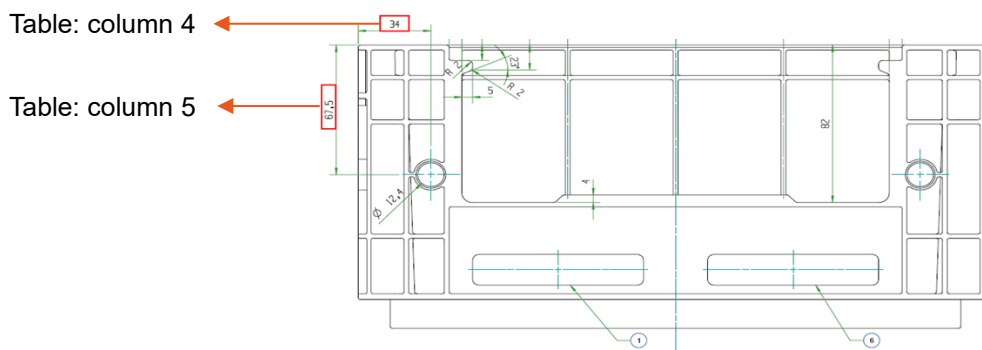
Table 5: Tolerances for centering bores per variant

Applies only to tools up to No. R0195, 2015-07-01. For tools from R0196, 2015-07-02, the drawings and tolerances valid at the time of manufacturer approval apply..

Mounting short side



Mounting long side



4.3 Loading unit securing

The loading unit safety is ensured by the described VDA universal KLT (ESD) loading units with carrier pallets of the ISO surface module 1200 x 1000 and loading unit end cap A 1210 ESD or the EURO surface module 1200 x 800 and loading unit cover A 1208-1 ESD in accordance with DEKRA reports AG70/2008-18567 dated May 14, 2008, and 28645/2012/1811793960 dated January 18, 2012.

The DEKRA reports AG70/2008-18567 dated May 14, 2008, and 28645/2012/1811793960 dated January 18, 2012, can be requested from the VDA on request.

The VDA recommends securing the loading unit cover plate for external transport. For internal transport, a decision must be made on securing the loading unit cover plate in accordance with the application.

5 Use and maintenance

All system users must ensure that all VDA KLT system elements are handed over to the next user in a usable condition. It is not permitted to attach stickers or labels or markings to VDA KLT system elements in the pool.

Exception: Adhesive dots that can be removed without leaving any residue to secure goods tags.

Cleaning KLT

VDA KLT system elements must be stable in washing processes and cleaning agents.

When cleaning VDA KLTs, the following points must be ensured:

The detergent must not attack the VDA KLT in combination with the washing parameters.

Washing temperatures up to 60°C are not a problem. At higher temperatures, tests must be carried out in combination with the detergent, the dwell time, and the pressure of the nozzles.

Dry temperatures up to 60°C are not a problem. At higher temperatures, tests must be carried out in combination with the dwell time.

If VDA KLTs fade due to aggressive detergents or become deformed due to excessive temperatures, they must no longer be added to the pool.

5.1 Damage characteristics

The following damage characteristics lead to recycling or internal reuse:

- Missing functional corners and edges
- Damage to the main handles, vertical grip grooves, outer contours
- Permanent deformation, soiling, adhesive residue and labelling
- Non-functional card pocket

5.2 Damage catalog

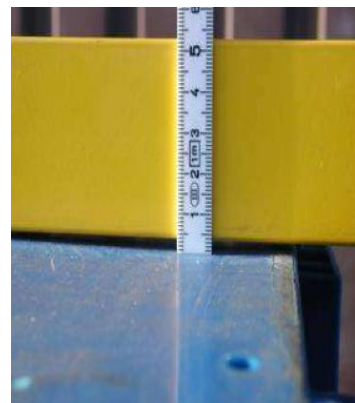
Determining the deflection of a VDA KLT container

To measure the deflection, the VDA KLT container is placed on a horizontal surface with the opening facing downwards. A spirit level is then placed on the highest point of the container base and carefully adjusted. The deflection of the base is then measured using a folding rule.

Evaluation of the measurement results:

- Container bottom damaged:
The deflection exceeds the valid VDA recommendation → Discard container
- Container bottom not damaged:
The deflection is within the valid VDA recommendation → Container is OK

Note: A slight curvature of the container (a slight bulge) is not necessarily an indication of damage and can also occur in intact containers.



Damage: Cracks in the KLT

Procedure: VDA KLTs with cracks are generally not usable.



Damage: Holes in the KLT

Procedure: VDA KLTs with holes are generally unusable.



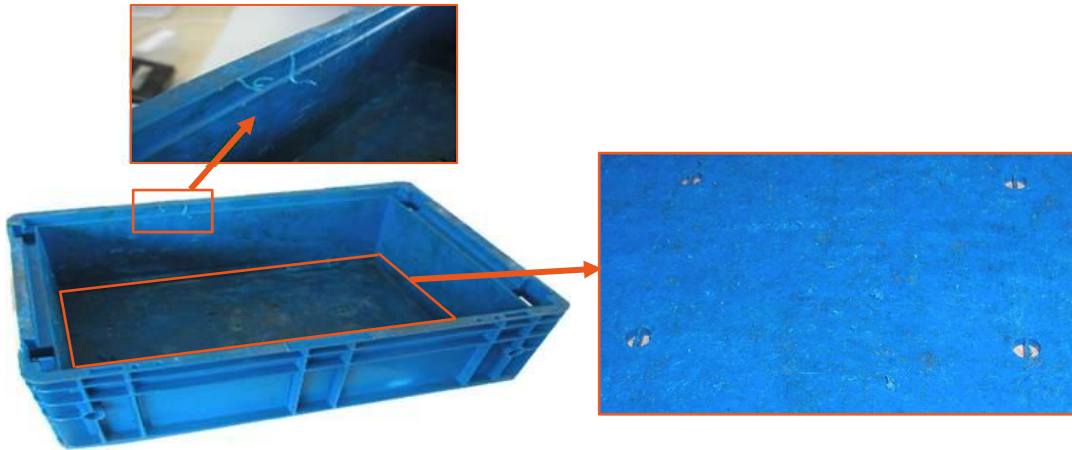
Damage: irreparable deformation of the container geometry

Procedure: VDA KLT containers with deformations are generally unusable



Damage: Chips on the KLT

Procedure: VDA KLTs with chips are generally not usable.



5.3 Ensuring functionality of user pool with VDA KLT system

VDA-KLT system elements with the above-mentioned damage characteristics may not be introduced into the system cycle by any system user.

System partners in the “VDA-KLT user pool” are therefore advised to make agreements in advance for cases of damage.

6 Fire safety

When using plastic containers, the relevant standards and country-specific regulations regarding fire protection must be observed.

When planning production or storage concepts, it is recommended to work with property insurers to develop suitable fire protection concepts that take into account combinations of sprinklers, shelving systems, containers, and fillings, among other things.

7 VDA-Packaging types (code list)

7064 Packaging type, code (also valid as CL 11 for VDA 4913)

080607	VDA GLT 800 x 600 x 700
121010	VDA GLT 1200 x 1000 x 975
0000BEH	sonstige Flüssigkeitsbehälter, Gebinde, Kanister, Hobbocks, Tanks, Container; nicht näher spezifiziert
0000BLE	Blechpakete, Blechcoils; nicht näher spezifiziert
0000BUN	Bunde, nicht näher spezifiziert
0000FAS	Fass, nicht näher spezifiziert
0000LOS	Loses Material (unverpackt)
0000PAL	Palette: 120 x 80 cm, Flachpalette bis 15 cm Höhe
0000SAC	Sack, nicht näher spezifiziert
0000SCH	Schachteln, Kisten, Pakete, nicht näher spezifiziert
0000SON	sonstige Einwegverpackung, nicht näher spezifiziert
0000UMR	Umreifung, nicht näher spezifiziert
0001PAL	Palette: 120 x 80 cm, bis 50 cm Höhe bebaut
0001SCH	Schachtel, Kiste, Paket: Abmessung bis 30 x 20 x 14 cm
0001SON	sonstige Einwegverpackung > 1 cbm, nicht näher spezifiziert
0002PAL	Palette: 120 x 80 cm, bis 100 cm Höhe bebaut
0002SCH	Schachtel, Kiste, Paket: Abmessung bis 30 x 20 x 28 cm
0002SON	sonstige Einwegverpackung < 1 cbm, nicht näher spezifiziert
0003PAL	Palette: 120 x 80 cm, bis 150 cm Höhe bebaut
0003SCH	Schachtel, Kiste, Paket: Abmessung bis 40 x 30 x 14 cm
0004PAL	Palette: 120 x 80 cm, bis 200 cm Höhe bebaut
0004SCH	Schachtel, Kiste, Paket: Abmessung bis 30 x 20 x 28 cm
0005PAL	Palette: 120 x 100 cm, bis 50 cm Höhe bebaut
0005SCH	Schachtel, Kiste, Paket: Abmessung bis 50 x 30 x 20 cm
0006PAL	Palette: 120 x 100 cm, bis 100 cm Höhe bebaut
0006SCH	Schachtel, Kiste, Paket: Abmessung bis 50 x 50 x 50 cm
0007PAL	Palette: 120 x 100 cm, bis 150 cm Höhe bebaut
0007SCH	Schachtel, Kiste, Paket: Abmessung bis 58 x 48 x 36 cm
0008PAL	Palette: 120 x 100 cm, bis 200 cm Höhe bebaut
0008SCH	Schachtel, Kiste, Paket: Abmessung bis 60 x 40 x 14 cm
0009PAL	Palette: 120 x 100 cm, Flachpalette bis 15 cm Höhe
0009SCH	Schachtel, Kiste, Paket: Abmessung bis 60 x 40 x 28 cm
0010SCH	Schachtel, Kiste, Paket: Abmessung bis 80 x 60 x 40 cm
0011SCH	Schachtel, Kiste, Paket: Abmessung bis 98 x 58 x 36 cm
0012SCH	Schachtel, Kiste, Paket: Abmessung bis 100 x 60 x 73 cm
0013SCH	Schachtel, Kiste, Paket: Abmessung bis 120 x 78 x 110 cm
0014SCH	Schachtel, Kiste, Paket: Abmessung bis 120 x 80 x 40 cm
0015SCH	Schachtel, Kiste, Paket: Abmessung bis 120 x 80 x 90 cm
0016SCH	Schachtel, Kiste, Paket: Abmessung bis 120 x 100 x 90 cm
12081A	VDA KLT Ladeeinheit Abschlussdeckel 1200 x 800 x 84
12081AE	VDA KLT Ladeeinheit Abschlussdeckel 1200 x 800 x 84
1208A	VDA KLT Ladeeinheit Abschlussdeckel 1200 x 800 x 94
1208SP	VDA KLT Sicherungsplatte für Palette 1200 x 800
1210A	VDA KLT Ladeeinheit Abschlussdeckel 1200 x 1000 x 94
1210AE	VDA KLT Ladeeinheit Abschlussdeckel 1200 x 1000 x 94
13L	EWPS Zwischenlage 13 Zoll beschichtet

13S	EWPS Zwischenlage 13 Zoll unbeschichtet
14L	EWPS Zwischenlage 14 Zoll beschichtet
14S	EWPS Zwischenlage 14 Zoll unbeschichtet
15L	EWPS Zwischenlage 15 Zoll beschichtet
15S	EWPS Zwischenlage 15 Zoll unbeschichtet
16L	EWPS Zwischenlage 16 Zoll beschichtet
16S	EWPS Zwischenlage 16 Zoll unbeschichtet
175S	EWPS Zwischenlage 17.5 Zoll unbeschichtet
175SDC	EWPS Zwischenlage 17.5 Zoll unbeschichtet Steilschulter
17L	EWPS Zwischenlage 17 Zoll beschichtet
17S	EWPS Zwischenlage 17 Zoll unbeschichtet
18L	EWPS Zwischenlage 18 Zoll beschichtet
18S	EWPS Zwischenlage 18 Zoll unbeschichtet
195SDC	EWPS Zwischenlage 19.5 Zoll unbeschichtet Steilschulter
19L	EWPS Zwischenlage 19 Zoll beschichtet
19S	EWPS Zwischenlage 19 Zoll unbeschichtet
1BP	EWPS Grundpalette Größe 1
1TP	EWPS Abschlussrahmen Größe 1
20L	EWPS Zwischenlage 20 Zoll beschichtet
20S	EWPS Zwischenlage 20 Zoll unbeschichtet
20STBS	EWPS Zwischenlage 20 Zoll unbeschichtet Schrägschulter
21L	EWPS Zwischenlage 21 Zoll beschichtet
21S	EWPS Zwischenlage 21 Zoll unbeschichtet
225SDC	EWPS Zwischenlage 22.5 Zoll unbeschichtet Steilschulter
22L	EWPS Zwischenlage 22 Zoll beschichtet
22S	EWPS Zwischenlage 22 Zoll unbeschichtet
2BP	EWPS Grundpalette Größe 2
2TP	EWPS Abschlussrahmen Größe 2
3115RE	VDA R KLT ESD300 x 200 x 147
3115RLE	VDA RL KLT ESD 300 x 200 x 147
3147RL	VDA RL KLT 300 x 200 x 147
31DE	VDA KLT Deckel ESD 300 x 200
3214C	VDA C KLT 300 x 200 x 147
3215R	VDA R KLT 300 x 200 x 147
3217C	VDA C KLT 300 x 200 x 174
35D	VDA KLT Deckel 300 x 200
3715RF	VDA R KLT 300 x 200 x 147 mit RFID (Retrofit)
3747RLF	VDA RL KLT 300 x 200 x 147 mit RFID (Retrofit)
3BP	EWPS Grundpalette Größe 3
3TP	EWPS Abschlussrahmen Größe 3
4047RLE	VDA RL KLT ESD 400 x 300 x 147
4080RLE	VDA RL KLT ESD 400 x 300 x 280
4115RE	VDA R KLT ESD 400 x 300 x 147
4129RE	VDA R KLT ESD 400 x 300 x 280
4147RL	VDA RL KLT 400 x 300 x 147
41DE	VDA KLT Deckel ESD 400 x 300
4280RL	VDA RL KLT 400 x 300 x 280
4314C	VDA C KLT 400 x 300 x 147
4315R	VDA R KLT 400 x 300 x 147
4317C	VDA C KLT 400 x 300 x 174
4321C	VDA C KLT 400 x 300 x 214
4328C	VDA C KLT 400 x 300 x 280
4329R	VDA R KLT 400 x 300 x 280

45D	VDA KLT Deckel 400 x 300
4713RLF	VDA RL KLT 400 x 300 x 213 mit RFID (Retrofit)
4715RF	VDA R KLT 400 x 300 x 147 mit RFID (Retrofit)
4722RF	VDA R KLT 400 x 300 x 213 mit RFID (Retrofit)
4729RF	VDA R KLT 400 x 300 x 280 mit RFID (Retrofit)
4747RLF	VDA RL KLT 400 x 300 x 147 mit RFID (Retrofit)
4780RLF	VDA RL KLT 400 x 300 x 280 mit RFID (Retrofit)
4BP	EWPS Grundpalette Größe 4
4TP	EWPS Abschlussrahmen Größe 4
6047RLE	VDA RL KLT ESD 600 x 400 x 147
6080RLE	VDA RL KLT ESD 600 x 400 x 280
6115RE	VDA R KLT ESD 600 x 400 x 147
6129RE	VDA R KLT ESD 600 x 400 x 280
6147RL	VDA RL KLT 600 x 400 x 147
61DE	VDA KLT Deckel ESD 600 x 400
6280RL	VDA RL KLT 600 x 400 x 280
6410F	VDA F KLT 600 x 400 x 280 (94.5)
6414C	VDA C KLT 600 x 400 x 147
6415R	VDA R KLT 600 x 400 x 147
6417C	VDA C KLT 600 x 400 x 174
6421C	VDA C KLT 600 x 400 x 214
6428C	VDA C KLT 600 x 400 x 280
6429R	VDA R KLT 600 x 400 x 280
65D	VDA KLT Deckel 600 x 400
6713RLF	VDA RL KLT 600 x 400 x 213 mit RFID (Retrofit)
6715RF	VDA R KLT 600 x 400 x 147 mit RFID (Retrofit)
6722RF	VDA R KLT 600 x 400 x 213 mit RFID (Retrofit)
6729RF	VDA R KLT 600 x 400 x 280 with RFID (Retrofit)
6747RLF	VDA RL KLT 600 x 400 x 147 mit RFID (Retrofit)
6780RLF	VDA RL KLT 600 x 400 x 280 mit RFID (Retrofit)
COPACK	Virtuelle Verpackung

8 Appendices, links, and other applicable documents

Further information and details on the drawings, test dimension drawings, approved testing institutes, approval and certification procedures, test criteria, etc. can be requested from the VDA.

Der Verband der Automobilindustrie (VDA) vereint rund 620 Hersteller und Zulieferer unter einem Dach. Die Mitglieder entwickeln und produzieren Pkw und Lkw, Software, Anhänger, Aufbauten, Busse, Teile und Zubehör sowie immer neue Mobilitätsangebote.

Wir sind die Interessenvertretung der Automobilindustrie und stehen für eine moderne, zukunftsorientierte multimodale Mobilität auf dem Weg zur Klimaneutralität. Der VDA vertritt die Interessen seiner Mitglieder gegenüber Politik, Medien und gesellschaftlichen Gruppen.

Wir arbeiten für Elektromobilität, klimaneutrale Antriebe, die Umsetzung der Klimaziele, Rohstoffsicherung, Digitalisierung und Vernetzung sowie German Engineering. Wir setzen uns dabei für einen wettbewerbsfähigen Wirtschafts- und Innovationsstandort ein. Unsere Industrie sichert Wohlstand in Deutschland: Mehr als 780.000 Menschen sind direkt in der deutschen Automobilindustrie beschäftigt.

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