

VDA Recommendation 4525 Standardized disposable packaging for sea container applications
Annex: A1 System element pallet LT-1108

LT-Typ	Module	Code	System element	Nominal dimension [mm]			External dimension [mm]			Load capacity	
				l	w	h	l	w	h	max. load per pallet ¹⁾ [kg]	max. superimposed load during stacking ²⁾ [kg]
Pallet		LT-1108	Expendable flat pallet 1.140*790	1.140	790	140	1.140	790	134	500	2.000
		LT-1110	Expendable flat pallet 1.140*980	1.140	980	140	1.140	980	134	500	2.000

1) with surface loading (if evenly loaded)! Suitable for high rack storage
 2) with surface loading (if evenly loaded)!

© Alle Rechte bei Robert Bosch GmbH, auch für den Fall von Schutzrechtsverletzungen. Jede Vervielfältigung, wie Kopieren- und Weitergeben, ist untersagt.

LT-1108

Nadel- oder Laubholz
 Güteklasse II/III / S7 nach DIN 4074-1
 Oberfläche rau und scharfkantig
 softwood or hardwood
 surface rough sawn and sharp arrises

Nach IPPC-Standard
 Verwendetes Holz muss völlig frei sein von Baumrinde und Bohrlöchern
 Used wood must be free of bark and drillholes

Bei Bedarf technische Trocknung (18-22% Holzfeuchte)
 technical drying, if required (18-22% moisture content)

An 2 gegenüberliegenden Klötzen weiß gekennzeichnet
 marked white on 2 opposite blocks

Angegebene Maße sind Fertigmaße, und dürfen auch nach technischer Trocknung nicht unterschritten werden.
 given dimensions are final dimensions and must not be below, even after technical drying

IPPC Kennzeichnung auf zwei gegenüberliegenden Seiten
 IPPC marking on two opposite sides

Klotz aus Vollholz, alternativ aus Pressspan (Rohdichte min 580kg/m³), Verleimung nach DIN 15147, entsprechend Holzwerkstoffklasse 100, gemäß DIN 68800-2
 block made of solid wood, alternatively of derived timber (DIN 15147, gross density min 580kg/m³, tack according to DIN68800-2, derived timber class 100)

Lfd.Nr.	Stück	Maße
5	3	Deckbrett/boards top 1140x78x18
4	3	Bodenbrett/boards cross 1140x90x18
3	9	Klotz/block 90x90x78
2	3	Querbrett/ boards cross 790x90x18
1	2	Deckbrett/boards top 1140x90x18

Anzahl und Art der Nägel	Nagellänge	Nageldicke	Fehl. Angaben/ i. Verwendung/
von oben Klotzverbindung block connection top-down 9 x 2 Ring-/ Schraubnägeln screw nails	min.80mm	3,4mm	Stückliste besonderes Blatt/
Verbindung Deck-Querbretter connection top-crossboards 6 x 2 Nietnägeln hangnails	40 mm	2,5mm	
von unten Klotzverbindung block connection from bottom up 9 x 2 Ring-/ Schraubnägeln screw nails	min.55mm	2,8mm	Nr. Änderung gez. gültig gepr.

Gr. St.	Datum/	Name/	Original/	Benennung/	Blatt
gz/	27.11.08			Einweg-Vierwege-Palette	1
gp/				non-returnable four-way-entry pallet	1 Bl/
gz/				LT-1108	

Weitere Freispr. Zeichnungen

VDA Recommendation 4525 Standardized disposable packaging for sea container applications
Annex: A2 System element pallet LT-1110

LT-Typ	Module	Code	System element	Nominal dimension [mm]			External dimension [mm]			Load capacity	
				l	w	h	l	w	h	max. load per pallet ¹⁾ [kg]	max. superimposed load during stacking ²⁾ [kg]
Pallet		LT-1108	Expendable flat pallet 1.140*790	1.140	790	140	1.140	790	134	500	2.000
		LT-1110	Expendable flat pallet 1.140*980	1.140	980	140	1.140	980	134	500	2.000

1) with surface loading (if evenly loaded)! Suitable for high rack storage
 2) with surface loading (if evenly loaded)!

LT-1110

Nadel- oder Laubholz
Güteklasse II/III / S7 nach DIN 4074-1
Oberfläche rau und scharfkantig
softwood or hardwood
surface rough sawn and sharp arrises

Unterfahrhöhe min. 92₋₀
forklift space min. 92₋₀

Klotz aus Vollholz, alternativ aus Pressspan (Rohdichte min 580kg/m³, Verleimung nach DIN 15147, entsprechend Holzwerkstoffklasse 100, gemäß DIN 68800-2)

block made of solid wood, alternatively of derived timber (DIN 15147, gross density min 580kg/m³, tack according to DIN68800-2, derived timber class 100)

Nach IPPC-Standard
Verwendetes Holz muss völlig frei sein von Baumrinde und Bohrlöchern
Used wood must be free of bark and drillholes

Bei Bedarf technische Trocknung (18-22% Holzfeuchte)
technical drying, if required (18-22% moisture content)

An 2 gegenüberliegenden Klötzen weiß gekennzeichnet
marked white on 2 opposite blocks

Angegebene Maße sind Fertigmaße, und dürfen auch nach technischer Trocknung nicht unterschritten werden.
given dimensions are final dimensions and must not be below, even after technical drying

IPPC Kennzeichnung auf zwei gegenüberliegenden Seiten
IPPC marking on two opposite sides

Lfd.Nr.	Stück	Maße
5	3	Deckbrett/boards top 1140x78x18
4	3	Bodenbrett/boards cross 1140x90x18
3	9	Klotz/block 90x90x78
2	3	Querbrett/ boards cross 980x90x18
1	2	Deckbrett/boards top 1140x90x18

Fehl. Angaben/ i. Verwendung/		Stückliste besonderes Blatt/		Oberfläche		ISO E		Maßstab		Gewicht	
von oben Klotzverbindung block connection top down	9 x 2 Ring- / Schraubnägeln screw nails	min.80mm	3,4mm	Gr. St.	27.11.08	None/	Stoff/ gus/ Benennung/	Einweg-Vierwege-Palette non-returnable four-way-entry pallet Nr. / LT-1110 Blatt 1 / 1 Bl.			
Verbindung Deck-Querbohrer connection top- crossboards	6 x 2 Nietnägeln hangnails	40 mm	2,5mm	Orig.							
von unten Klotzverbindung block connection from bottom up	9 x 2 Ring- / Schraubnägeln screw nails	min.55mm	2,8mm	DIN A3							
Weitere Feinzeichnungen		Nr. Änderung		gez.	gültig	gepr.					

VDA Recommendation 4525 Standardized disposable packaging for sea container applications
Annex: A3 System elements GLT

Module	Code	System element	Nominal dimension [mm]			External dimension [mm]			Internal dimension [mm]			Design (options)	Quality ⁴⁾					LU - load grade				
			l	w	h	l	w	h	l	w	h		FEFCO	Breaking strength of LU ¹⁾ 23°C/50% [N]	≈ Thickness of cardboard [mm]	ECT (Edge Crush Resistance) [kN/m]	Puncture resistance [J]	Wet bursting strength [kPa]	Max. gross weight / LU [kg]	Max. superimposed load / LU, dyn. [kg]		
GLT lid	GLT-SD-1108	GLT-slip lid 1.140*790	1.140	790	80	1.140	790	87	1.128	765	80	FEFCO 0457	16800	7	14,0	15	800					
	GLT-SD-1110	GLT-slip lid 1.140*980	1.140	980	80	1.140	980	87	1.128	955	80											
GLT-L light	GLT-FK-089L	GLT-folding box 1.140*790*900	1.140	790	900	1.125	765	909	1.095	735	879+	FEFCO 0200 with loading flaps ²⁾	16800	12,5	18,0	22	1.200	< 240 kg	240 kg ³⁾			
	GLT-FK-086L	GLT-folding box 1.140*790*600			600			616			586+	FEFCO 0200							480 kg			
	GLT-FK-083L	GLT-folding box 1.140*790*300			300			323			293+	FEFCO 0200							480 kg			
	GLT-R-089L	GLT-ring/frame 1.140*790*900			900			893			879+	FEFCO 0501 with loading flaps ²⁾							240 kg ³⁾			
	GLT-R-086L	GLT-ring/frame 1.140*790*600			600			600			586+	FEFCO 0501							480 kg			
	GLT-R-083L	GLT-ring/frame 1.140*790*300			300			307			293+	FEFCO 0501							480 kg			
	GLT-FK-109L	GLT-folding box 1.140*980*900		980	955		900	909		879+	FEFCO 0200 with loading flaps ²⁾	21.000	925	586+	FEFCO 0200	21.000	12,5	18,0	22	1.200	< 300 kg	300 kg ³⁾
	GLT-FK-106L	GLT-folding box 1.140*980*600					600	616		586+	FEFCO 0200			600 kg								
	GLT-FK-103L	GLT-folding box 1.140*980*300					300	323		293+	FEFCO 0200			600 kg								
	GLT-R-109L	GLT-ring/frame 1.140*980*900					900	893		879+	FEFCO 0501 with loading flaps ²⁾			300 kg ³⁾								
	GLT-R-106L	GLT-ring/frame 1.140*980*600					600	600		586+	FEFCO 0501			600 kg								
	GLT-R-103L	GLT-ring/frame 1.140*980*300					300	307		293+	FEFCO 0501			600 kg								
GLT-H heavy	GLT-FK-089H	GLT-folding box 1.140*790*900	1.140	790	900	1.125	765	909	1.095	735	879+	FEFCO 0200 with loading flaps ²⁾	25200	12,5	24,0	30	1.800	< 360 kg	360 kg ³⁾			
	GLT-FK-086H	GLT-folding box 1.140*790*600			600			616			586+	FEFCO 0200							720 kg			
	GLT-FK-083H	GLT-folding box 1.140*790*300			300			323			293+	FEFCO 0200							720 kg			
	GLT-R-089H	GLT-ring/frame 1.140*790*900			900			893			879+	FEFCO 0501 with loading flaps ²⁾							360 kg ³⁾			
	GLT-R-086H	GLT-ring/frame 1.140*790*600			600			600			586+	FEFCO 0501							720 kg			
	GLT-R-083H	GLT-ring/frame 1.140*790*300			300			307			293+	FEFCO 0501							720 kg			
	GLT-FK-109H	GLT-folding box 1.140*980*900		980	955		900	909		879+	FEFCO 0200 with loading flaps ²⁾	31.500	925	586+	FEFCO 0200	31.500	12,5	24,0	30	1.800	< 450 kg	450 kg ³⁾
	GLT-FK-106H	GLT-folding box 1.140*980*600					600	616		586+	FEFCO 0200			900 kg								
	GLT-FK-103H	GLT-folding box 1.140*980*300					300	323		293+	FEFCO 0200			900 kg								
	GLT-R-109H	GLT-ring/frame 1.140*980*900					900	893		879+	FEFCO 0501 with loading flaps ²⁾			450 kg ³⁾								
	GLT-R-106H	GLT-ring/frame 1.140*980*600					600	600		586+	FEFCO 0501			900 kg								
	GLT-R-103H	GLT-ring/frame 1.140*980*300					300	307		293+	FEFCO 0501			900 kg								
1)	Min. Breaking strength that has to be achieved! Test has to be done with one pallet under the loading unit and one pallet on top! The values for breaking strength in the table have been achieved with the cardboard material with the stated data (ECT,...).																					
2)	Loading flap at one long side, 750mm widthwise and a height of 440mm. Crease line only 750mm widthwise, not over the complete length of the box! Cuttings of the loading flap have to be glued with reinforced adhesive tape!																					
3)	Loading units with this height can only be stacked 1+1 inside the container. Therefore only the superimposed load of one loading unit has to be guaranteed (at all times a safety factor ≥ 3,5 has to be guaranteed!).																					
4)	Cardboard material with three flutes has to be used for the GLT (GLT lids two flutes), which are wet strength glued. The outer and inner cover layers have to consist of Kraft liner.																					

VDA Recommendation 4525 Standardized disposable packaging for sea container applications
Annex: A4 System elements KLT

Module	Code	System element	Nominal dimension [mm]			External dimension [mm]			Internal dimension [mm]			Design (recommended variants) ³⁾	Quality					Loading Unit (LU) - load grade			
			l	w	h	l	w	h	l	w	h		FEFCO	BCT _{23°C/50%} min [N]	≈ Thickness of cardboard [mm]	ECT [kN/m]	Puncture resistance [J]	Bursting strength [kPa]	Wet bursting strength [kPa]	Max. gross weight / LU [kg]	Max. superimposed load / LU, dyn. [kg]
Covers	GLT-SD-1108	GLT-slip lid	1.140	790	80	1.140	790	87	1.128	765	80	FEFCO 0457	800	7	14,0	15		800			
	GLT-SD-1110	GLT-slip lid	1.140	980	80	1.140	980	87	1.128	955	80										
	KLT-B1-SD1108	GLT-plywood lid	1.140	790	6	1.140	790	6													Plywood blank
	KLT-B1-SD1110	GLT-plywood lid	1.140	980	6	1.140	980	6													Plywood blank
KLT B1	KLT-B1-5730	Carton	570	380	280	564	376	276	550	362	262*	FEFCO 0200 FEFCO 0200 with slot snap lock bottom	8.500	7	BCT mandatory, because cartons carry the weight during stacking (superimposed load), higher BCT possible to use standard corrugated cardboard qualities			Outer cover layer Kraft liner, if required wet strength glued	Pallet1108:<240kg Pallet1110:<300kg	Pallet1108:<480kg Pallet1110:<600kg	
	KLT-B1-5715	Carton	570	380	140	564	376	144	550	362	130*	8.500									
	KLT-B1-57SD	Slip lid, 1 flute	570	380	50	570	380	52	564	377	50	FEFCO 0450 FEFCO 0453		1,5	5,5	4,5	1350				
	KLT-B1-3830	Carton	380	285	280	374	282	276	360	268	262*	FEFCO 0200 FEFCO 0200 with slot snap lock bottom	4.250	7	BCT mandatory, because cartons carry the weight during stacking (superimposed load), higher BCT possible to use standard corrugated cardboard qualities						
	KLT-B1-3815	Carton	380	285	140	374	282	144	360	268	130*	FEFCO 0700 ¹⁾	4.250								
	KLT-B1-38SD	Slip lid, 1 flute	380	285	50	380	285	52	374	282	50	FEFCO 0450 FEFCO 0453		1,5	5,5	4,5	1350				
	KLT-B1-2815	Carton	285	190	140	277	185	144	263	171	130*	FEFCO 0200 FEFCO 0700 ¹⁾	2.125	7	BCT mandatory, because cartons carry the weight during stacking (superimposed load), higher BCT possible to use standard corrugated cardboard qualities						
	KLT-B1-28SD	Slip lid, 1 flute	285	190	50	283	188	52	277	185	50	FEFCO 0450 FEFCO 0453		1,5	5,5	4,5	1350				
	KLT-B1-LD1108	Layer slip lid, 2 flutes	1.140	790	55	1.140	774	55	1.130	754	50	FEFCO 0451 FEFCO 0452		5	7,0	6,5	1100				
KLT-B1-LD1110	Layer slip lid, 2 flutes	1.140	980	55	1.140	961	55	1.130	941	50			5	7,0	6,5	1100					
KLT B2	KLT-B2-5730	Carton	540	360	293	533	357	291	519	343	277*	FEFCO 0200 FEFCO 0200 with slot snap lock bottom		7	8,0	7,5	1350	Depending on the used GLT, KLT don't carry any weight during stacking!			
	KLT-B2-5715	Carton	540	360	146	533	357	144	519	343	130*		7	8,0	7,5	1350					
	KLT-B2-57SD	Slip lid, 1 flute	540	360	60	540	360	60	534	357	58	FEFCO 0450 FEFCO 0453		1,5	5,5	4,5	1350				
	KLT-B2-3830	Carton	360	270	293	353	267	291	339 (343)	253 (257)	277* (281*)	FEFCO 0200 FEFCO 0200 with slot snap lock bottom		7 5	8,0	7,5	1350				
	KLT-B2-3815	Carton	360	270	146	353	267	144	339 (343)	253 (257)	130* (134*)	FEFCO 0700 ¹⁾		7 5	8,0	7,5	1350				
	KLT-B2-38SD	Slip lid, 1 flute	360	270	60	360	270	60	354	267	58	FEFCO 0450 FEFCO 0453		1,5	5,5	4,5	1350				
	KLT-B2-2815	Carton	270	180	146	263	177	144	253	167	134*	FEFCO 0200 FEFCO 0700 ¹⁾		5	8,0	7,5	1350				
	KLT-B2-28SD	Slip lid, 1 flute	270	180	60	270	180	60	264	177	58	FEFCO 0450 FEFCO 0453		1,5	5,5	4,5	1350				
	KLT-B2-LD1108	Layer slip lid, 1 flute	1.140	790	60	1.076	724	62	1.073	718	60	FEFCO 0451 FEFCO 0452		1,5	5,5	4,5	1350				
KLT-B2-LD1110	Layer slip lid, 1 flute	1.140	980	60	1.076	904	62	1.073	898	60			1,5	5,5	4,5	1350					
KLT B3	KLT-B3-5730 ²⁾	Carton	530	350	237	524	347	235	510	333	221*	FEFCO 0200 FEFCO 0200 with slot snap lock bottom		7	8,0	7,5	1350	Depending on the used GLT, KLT don't carry any weight during stacking!	It is possible to use an additional inner ring/frame (max. 3 flutes, thickness ≈12.5mm) inside the GLT to reach higher superimposed load (carry more weight during stacking).		
	KLT-B3-5715 ²⁾	Carton	530	350	104	524	347	102	510	333	88*		7	8,0	7,5	1350					
	KLT-B3-57SD	Slip lid, 1 flute	530	350	60	530	350	60	524	347	58	FEFCO 0450 FEFCO 0453		1,5	5,5	4,5	1350				
	KLT-B3-3830	Carton	346	258	237	340	255	235	326 (330)	241 (245)	221* (225*)	FEFCO 0200 FEFCO 0200 with slot snap lock bottom		7 5	8,0	7,5	1350				
	KLT-B3-3815	Carton	346	258	104	340	255	102	326 (330)	241 (245)	88* (92*)	FEFCO 0700 ¹⁾		7 5	8,0	7,5	1350				
	KLT-B3-38SD	Slip lid, 1 flute	346	258	60	346	258	60	340	255	58	FEFCO 0450 FEFCO 0453		1,5	5,5	4,5	1350				
	KLT-B3-2815	Carton	244	160	124	238	157	122	228	147	112*	FEFCO 0200 FEFCO 0700 ¹⁾		5	8,0	7,5	1350				
	KLT-B3-28SD	Slip lid, 1 flute	244	160	60	244	160	60	238	157	58	FEFCO 0450 FEFCO 0453		1,5	5,5	4,5	1350				
	KLT-B3-LD1108	Layer slip lid, 1 flute	1.140	790	60	1.058	704	62	1.055	698	60	FEFCO 0451 FEFCO 0452		1,5	5,5	4,5	1350				
KLT-B3-LD1110	Layer slip lid, 1 flute	1.140	980	60	1.058	889	62	1.055	883	60			1,5	5,5	4,5	1350					

* depending on design of the bottom

¹⁾ For bulk goods a closed flat bottom similar to FEFCO 0701 or an additional inlay is advisable.

²⁾ The dimensions of the KLT-B3-5730/5715 have been chosen a little bit smaller than necessary for the use in VDA-R/RL-KLT, so that they can be used with additional inner ring/frame. Without the consideration of the inner ring/frame the nominal dimensions of 545x359x237/104 are possible!

³⁾ Every chosen design has to be checked regarding applicability for the chosen application. Recommended design variants should facilitate selection.