

TEST CERTIFICATE



EUROSAFE Cartificate no./ long version 2017-10-001 Test location: TU Darmstadt Alrifield premises Test date: 11/09/2017-Priving test 06/10/2017-Test bench Client Strauch GmbH Mr A. Strauch Mr H. Vetter Persons present Certified expert Neumanr/EUROSAFE The client was present Juring the tests Version Strauch Mr A. Strauch Mr H. Vetter 1. Inclination test according to DIN EN 122195-1 The load units, loaded onto a struct, were subjected to to nizontal forces of 0.8 g in both directions (sideways/lengthways) several (3) consecutive times. 3. Opnamic driving test according to DIN EN 12642 Annex B and C The load units, loaded onto a truck, were subjected to the test requirements listed in DIN EN 12642 according to Annex B. Test object: 2 pos x 220 L-Ring PE drums Uf formation: Strauch orque wrench. Tu object and the strauch GmbH. The Drumguard*Dou System applicat orque wrench. Vertical force-lock connection via a pre-tensioned self-locking metal screw in accordance with ETA-12/019 and ETA-12/0114, or a comparable connection element belonging to the Strauch GmbH. The Drumguard*Duo System is made of galvanised sheet steel, weight: c. 1.270 grups, sheet thickness c. 1.5 mm, strength verification value (U) of 0.6 should be inserted between the plastic packing and the wooden pallet. Pallet type: CP 2 or EURO pallet, 80 x 120 cm EUMOS 40509.2. Horizontal Incl. test up to 45 ⁶ / lengtt Incl. test up to 45 ⁶	Certificate no. / long version			System	a CP EUROSAFE certificate no. 2017-10-001-4		
Mr A. Strauch Mr H. Vetter present The client was present during the tests 1. Inclination test according to DIN EN 12195-1 The load units were subjected to a static test with a sideways/lengthways inclination angle of at least 45 degrees 2. Dynamic horizontal test according to EUMOS 40509/2012 3. Dynamic driving test according to DIN EN 12642 Annex B and C The load units, loaded onto a truck, were subjected to the test requirements listed in DIN EN 12642 according to Annex B. Test object: 2 pcs x 2201 L Ring PE drums UD formation: Drumguard*Doue System applied across the top, screwed on with a screw located in the middle of the pallet base. The tightening torque of the screw is at least 35 Nm. To be installed with a screwing device, torque to be tested with a torque wrench. Vertical force-lock connection via a pre-tensioned self-locking metal screw in accordance with ETA-12/019 and ETA-12/0114, or a comparable connection element belonging to the Strauch GmBH. The Drunguard*Duo System simade of galvanised sheet steel, weight: ca. 1/30 grams, sheet thickness ca. 1.5 mm, strength verification via EVM analysis. Increase of friction value: Underlays which increase the friction value to create a certified friction value (µ) of 0.6 should be inserted between the plastic packaging and the wooden pallet. Pallet type: C2 or EURO pallet, 80 × 120 cm Total pallet weight: ca. 460 kg, gross weight per drum: 220 kg Employed DIN EN 1245-1 Standards: Ind. test up to 45° /side Incl. test up to 45° /side impact 31 titses in 2 directions, aster thiclose with a vehic	Client				Test date:		
The load units were subjected to a static test with a sideways/lengthways inclination angle of at least 45 degrees 2. Dynamic horizontal test according to EUMOS 40509:2012 The load units were subjected to horizontal forces of 0.8 g in both directions (sideways/lengthways) several (3) consecutive times. 3. Dynamic driving test according to DINEN 12642 Annex B and C The load units, loaded onto a truck, were subjected to the test requirements listed in DIN EN 12642 according to Annex B. Test object: 2 pcs x 2201 L-Ring PE drums LU formation: Drumguard*Duo System applied across the top, screwed on with a screwing device, torque to be tested with a torque werench. Vertical force lock connection via a pre-tensioned self-locking metal screw in accordance with ETA-12/019 and ETA-12/0114, or a comparable connection element belonging to the Strauch GmbH. The Drumguard*Duo System is made of galvanised sheet steel, weight ca. 1170 grams, sheet thickness ca. 1.5 mm, strength verification via EFM analysis. Increase of friction value: Underlays which increase the fricticn value to create a certified friction value (µ) of 0.6 should be inserted between the plastic packaging and the wooden pallet. Pallet type: CP 2 or EURO pallet, 80 x 120 cm Total pallet weight: ca. 460 kg, gross weight per drum: 220 kg Employed DIN EN 12642 Annex B Standards: Incl. test up to 45° /side Incl. test up to 45° /side Europs of a comparable conceide a sufficiently stable. The displacement of the load units after being exposed to force 3 times in 2 linections was < 6 cm and did not measure more than 2 cm maximum displacement at any time during the test. The load units can also be loaded onto curtainside trainels with a ode 1	1	Mr A. Strauch p					
LU formation: Drumguard*Duo System applied across the top, screwed on with a screw located in the middle of the pallet base. The tightening torque of the screw is at least 35 Nm. To be installed with a screwing device, torque to be tested with a torque wrench. Vertical force-lock connection via a pre-tensioned self-locking metal screw in accordance with ETA-12/019 and ETA-12/0114, or a comparable connection element belonging to the Strauch GmbH. The Drumguard*Duo System is made of galvanised sheet steel, weight ca. 1170 grams, sheet thickness ca. 1.5 mm, strength verification via FEM analysis. Increase of friction value: Underlays which increase the friction value to create a certified friction value (µ) of 0.6 should be inserted between the plastic packaging and the wooden pallet. Pallet type: CP 2 or EURO pallet, 80 x 120 cm Total pallet weight: ca. 460 kg, gross weight per drum: 220 kg Employed Standards: Incl. test up to 45° /length Incl. test up to 45° /side Standards: Incl. test up to 45° /side According to the evaluation criteria listed in the EN Standards and the EUMOS Standard, the load unit is to be described as sufficiently stable. The displacement of the load units after being exposed to force 3 times in 2 impact directions was < 6 cm and idi not measure more than 2 cm maximum displacement at any time during the test. The load units can also be loaded onto curtainside trailers with Code L or Code XL certification. For vehicles with a vehicle body rigidity lower than Code XL vehicles, materials that increase the friction value (ARM, rubber, at least 6 mm) should additionally be laid between the pallets and the vehicle floor, resulting in a friction of at least 0.6 (µ) between the material pairs. For board wall vehicles Code L and Code XL, the blocking method can be used for loading. Empty space (> 8 cm in total, sideways in relation to the driving direction) are to be filled using suitable means or the load units must be additionally lashed down using means that increase the friction value. Complete	The load units were su 2. Dynamic horizontal The load units were su times. 3. Dynamic driving tes The load units, loaded	ubjected to a static test I test according to EUM ubjected to horizontal fo st according to DIN EN 1 I onto a truck, were subj	with a sidew OS 40509:20 prces of 0.8 g 12642 Anney	912 ; in both directions (sidew < B and C	ays/lengthways) several (3) consecutive	
Standards: Incl. test up to 45° /length Incl. test up to 45° /side impact 3 times in 2 directions, offset by 90° Dynamic driving test 3xfull brake 0.8g, 3xcornering 0.6g, 3xreversing 0.6g Result: According to the evaluation criteria listed in the EN Standards and the EUMOS Standard, the load unit is to be described as sufficiently stable. The displacement of the load units after being exposed to force 3 times in 2 impact directions was < 6 cm and did not measure more than 2 cm maximum displacement at any time during the test. The load units can also be loaded onto curtainside trailers with Code L or Code XL certification. For vehicles with a vehicle body rigidity lower than Code XL vehicles, materials that increase the friction value (ARM, rubber, at least 6 mm) should additionally be laid between the pallets and the vehicle floor, resulting in a friction of at least 0.6 (µ) between the material pairs. For board wall vehicles Code L and Code XL, the blocking method can be used for loading. Empty spaces (> 8 cm in total, sideways in relation to the driving direction) are to be filled using suitable means or the load units must be additionally lashed down using means that increase the friction value. ZN-20120507-0253 valid uniti 08/2022 valid unit 08/2022 valid unit 08/2022 number: Signature / stamp: EUROSAFE GmbH, Wolfgang Neumann, certified expert according to DIN EN ISO/IEC 17024:2012 for road, rail and sea transport (incl. dangerous goods) for Load securing, packaging and load unit formation ZN-20120507-0253 valid until 08/2022 valid until 08/2022 valid until 08/2022 Signature / stamp: EUROSAFE GmbH, Wolfgang Neumann, certified expert according to DIN EN ISO/IEC 17024:2012 for road, rail and sea transport (incl. dangerous goods) for Load securing, packaging and	base. The tightening to torque wrench. Vertical force-lock com or a comparable connor sheet steel, weight ca. Increase of friction va inserted between the Pallet type: CP 2 or EL	orque of the screw is at nection via a pre-tensio ection element belongir . 1170 grams, sheet thic Ilue: Underlays which in plastic packaging and th JRO pallet, 80 x 120 cm	least 35 Nm oned self-locing to the Stra kness ca. 1.5 crease the fr ne wooden p	. To be installed with a scr king metal screw in accord auch GmbH. The Drumgua mm, strength verification riction value to create a ce allet.	ewing device, t dance with ETA- ard®Duo System n via FEM analys	orque to be tested with a 12/019 and ETA-12/0114, is made of galvanised sis.	
be described as sufficiently stable. The displacement of the load units after being exposed to force 3 times in 2 impact directions was < 6 cm and did not measure more than 2 cm maximum displacement at any time during the test. The load units can also be loaded onto curtainside trailers with Code L or Code XL certification. For vehicles with a vehicle body rigidity lower than Code XL vehicles, materials that increase the friction value (ARM, rubber, at least 6 mm) should additionally be laid between the pallets and the vehicle floor, resulting in a friction of at least 0.6 (µ) between the material pairs. For board wall vehicles Code L and Code XL, the blocking method can be used for loading. Empty spaces (> 8 cm in total, sideways in relation to the driving direction) are to be filled using suitable means or the load units must be additionally lashed down using means that increase the friction value. Complete system tester: EUROSAFE GmbH, Wolfgang Neumann, certified expert according to DIN EN ISO/IEC 17024:2012 for road, rail and sea transport (incl. dangerous goods) for Load securing, packaging and load unit formation Tester certification number: ZN-20120507-0253 valid until 08/2022 Signature / stamp: Image: Si	Standards:	Incl. test up to 45° /leng	th impact	3 times in 2 directions,	Dynamic driving test 3xfull brake 0.8g, 3xcornering 0.6g,		
tester: according to DIN EN ISO/IEC 17024:2012 for road, rail and sea transport (incl. dangerous goods) for Load securing, packaging and load unit formation certification number: valid until 08/2022 Signature / stamp: Image: Construction of issue: Location of issue: Steinwingertstraße 27 Wofgang Numan Image: Construction of issue: Date of certificate issue: 22/12/2017	 	be described as sufficien in 2 impact directions w time during the test. Th certification. For vehicle the friction value (ARM, vehicle floor, resulting in Code L and Code XL, the in relation to the drivin	ntly stable. T vas < 6 cm a ne load units s with a veh , rubber, at n a friction of blocking me ng direction	he displacement of the loa and did not measure more can also be loaded onto icle body rigidity lower th least 6 mm) should addit of at least 0.6 (μ) between ethod can be used for load) are to be filled using s	ad units after be e than 2 cm ma curtainside trai an Code XL vehi ionally be laid k n the material p ling. Empty spaces suitable means	ing exposed to force 3 times ximum displacement at any ilers with Code L or Code XL icles, materials that increase between the pallets and the vairs. For board wall vehicles ces (> 8 cm in total, sideways	
Image: Contract of the state of the stat	tester:	according to DIN EN ISO transport (incl. dangero	/IEC 17024:2 us goods) fo	2012 for road, rail and sea	certification		
22/12/2017	Signature / stamp:			Steinwingerts	Steinwingertstraße 27		
Creator Wolfgang Neumann		Collige in 00/0022 / 00					
	Creator	Wolfgang Neumann					

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TEST CERTIFICATE



	Load un 2/	EUROSAFE certificate no. 2017-10-001-4				
EUROSAFE Certificate no. / long version	2017-10-001	Test location:	TU Darmstadt Airfield premises	Test date:	31/09/2017-Driving test 06/10/2017-Test bench	
Client	Strauch GmbH Mr A. Strauch Mr H. Vetter	Persons present	Certified expert Neumann/EUROSAFE The client was present during the tests			
Static inclination test DIN EN 12195-1 Inclination angle: 45 degrees Inclination duration: 10 minutes Result: no displacement > 2 cm		Dynamic hori	zontal test EUMOS 40509	Dynamic driv	ving test; EN 12642 Ann. B	
Inclination angle: 45 Inclination duration	5 degrees : 10 minutes	Impact: 3 x 0. Gradient: 0.8 Residence tim	8g in 2 x 90 degrees offset	. 3 x cornering 3 x full brake 3 x reversing Result: maxin	& dodging 0.5g > 1 s 0.8g : 0.5g num permitted vehicle of exceeded, no damage to	
Inclination angle: 45 Inclination duration	5 degrees 10 minutes ment > 2 cm EUROSAFE GmbH, according to DIN E	Impact: 3 x 0. Gradient: 0.8 Residence tim Result: displa impacts each Wolfgang Neuman N ISO/IEC 17024:2 gerous goods) for	8g in 2 x 90 degrees offset g in 0.05 sec. ne: at least 0.5 sec. /0.8g cement < 2cm after 3	. 3 x cornering 3 x full brake 3 x reversing Result: maxin width was no	& dodging 0.5g > 1 s 0.8g : 0.5g num permitted vehicle of exceeded, no damage to	
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Inclination angle: 45 Inclination duration Result: no displacer Complete system tester:	5 degrees 10 minutes nent > 2 cm EUROSAFE GmbH, according to DIN El transport (incl. dan and load unit form	Impact: 3 x 0. Gradient: 0.8 Residence tim Result: displa impacts each Wolfgang Neuman N ISO/IEC 17024:2 ogerous goods) for ation	8g in 2 x 90 degrees offset g in 0.05 sec. ne: at least 0.5 sec. /0.8g cement < 2cm after 3 nn, certified expert 2012 for road, rail and sea	 3 x cornering 3 x full brake 3 x reversing Result: maxin width was not the goods or Tester certification number: Location of is Steinwingert	& dodging 0.5g > 1 s 0.8g : 0.5g num permitted vehicle of exceeded, no damage to the vehicle. ZN-20120507-0253 valid until 08/2022	
Inclination angle: 45 Inclination duration Result: no displacer Complete system tester:	5 degrees 10 minutes nent > 2 cm EUROSAFE GmbH, according to DIN El transport (incl. dan and load unit form	Impact: 3 x 0. Gradient: 0.8g Residence tim Result: displa impacts each Wolfgang Neuman N ISO/IEC 17024:2 ogerous goods) for ation	8g in 2 x 90 degrees offset g in 0.05 sec. ne: at least 0.5 sec. /0.8g cement < 2cm after 3 nn, certified expert 2012 for road, rail and sea	 3 x cornering 3 x full brake 3 x reversing Result: maxin width was not the goods or Tester certification number: Location of is Steinwingert 63457 Hanau Date of certification 	& dodging 0.5g > 1 s 0.8g : 0.5g mum permitted vehicle of exceeded, no damage to the vehicle. ZN-20120507-0253 valid until 08/2022	

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