

Harness Structural test Report - EN / NfL

Inspection certificate number: PH_519.2026

Manufacturer data:

Manufacturer name: **Skywalk GmbH & Co. KG**
 Representative: **Mr. Arne Wehrlin**
 Street: **Windeckstrasse 4**
 Post code place: **83250 Marquarstein**
 Country: **Germany**

Sample data:

Name: **TWIST**
 Size: **M**
 Serial number: **SH-TW1-V2R6-0040**
 Impact pad: ⁽¹⁾ **Yes**
 Clip-in weight [kg]: **120**
 Date of test: **30.04.2026**

Atmosphere AGL:

[C°]	21
RH [%]	37
[hPa]	978

Summary of Structural test

Test id	EN 1651 / - NfL 2024-2-785	Setup	Req. Load [g]	Req. Load [N]	Min. duration [s]	Result
01 ⁽³⁾	✓ 5.5.1.1	Positive symmetric load (Slippage)	4.5	5400	5	POSITIVE
03 ⁽³⁾	✓ 5.5.1.1b	Positive symmetric load	15	18000	5	POSITIVE
05	✓ 5.5.1.2	Positive asymmetric load	6	7200	5	POSITIVE
06	✓ 5.5.1.6	Negative symmetric load	6	7200	5	POSITIVE
08 a ⁽⁵⁾	5.5.1.9	Anti falling-out system	4.5	5400	5	n/a
08 b ⁽⁵⁾	4.1.6	Additional Anti falling-out system	4.5	5400	5	n/a
09 ⁽³⁾⁽⁴⁾	✓ 5.5.1.3	Positive symmetric load rescue points	15	18000	5	POSITIVE
10 ⁽³⁾⁽⁴⁾	5.5.1.4	Negative symmetric load rescue points	15	18000	5	n/a
11	5.5.1.8	Connecting element for rescue	n/a	24000	0.3	n/a
12 ⁽³⁾	✓ 5.5.1.7	Upright (landing) position load	6	7200	5	POSITIVE
14	5.5.1.5	Negative symmetric load towing points	5	6000	5	n/a

Rescue deployment test

Test id	EN 1651 / - NfL 2024-2-785	Setup	Min. load [N]	Max. load [N]	Measured [N]	Result
RDT	✓ 5.5.1.11	Default flying position	20	70	65.33	POSITIVE

Rescue Deployment Handle strength test

Test id	EN 1651 / - NfL 2024-2-785	Setup	Req. Load [N]	Min. duration [s]	Break. strength [N]	Result
RST	✓ 5.3.2	Two end points of handle	700	10	764.05	POSITIVE

Rescue deployment test with integrated container for rescue system

Test id	EN 1651 / - NfL 2024-2-785	Setup	Result
RDIC	✓ 4.3.2-4.3.6	Release of the container at maximum volume	POSITIVE

Manufacturer	Instrument	Type no	S/N	Validity
HBM	Load Sensor GE01	1-S9M/50KN-1	31314643	24.03.2030
Burster / MTS	Load sensor 10kN SL2	8431-6010-N000S000	593507	24.03.2030
JDC elec	Geos n°11 Skywatch	Geos n°11	Unit11	24.07.2030

Air Turquoise SA, has thoroughly tested the sample mentioned above and certifies its conformity with the following standards:

EN1651:2018+A1:2020 and EN12491:2015+A1:2021 and NfL 2024-2-785

The validation of this test report is given by the signature of the test manager on the Inspection Certificate no 94.20a

⁽¹⁾ If Impact pad available, see test report no. 94.22 if integrated or 95.14 if not integrated and inspection certificate no. 94.20a. ⁽³⁾ Slipping test of any adjustable components: No slippage of any adjustable element more than 10 mm at 4500N for 5 s. The marks should be added with a pre-load of 1000N. ⁽⁴⁾ For harness with integrated Y bridle, test in the end loop ⁽⁵⁾ Attach to anti-falling out system without connecting the crotch straps (breast straps)

Calculated value in tests reports include the value minus the uncertainty (on safe side) / The uncertainty stated is the expanded uncertainty obtained by multiplying the standard uncertainty by the coverage factor k = 2. The value of the measurand lies within the assigned range of values with a probability of 95%

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model: **TWIST**

Harness Structural test

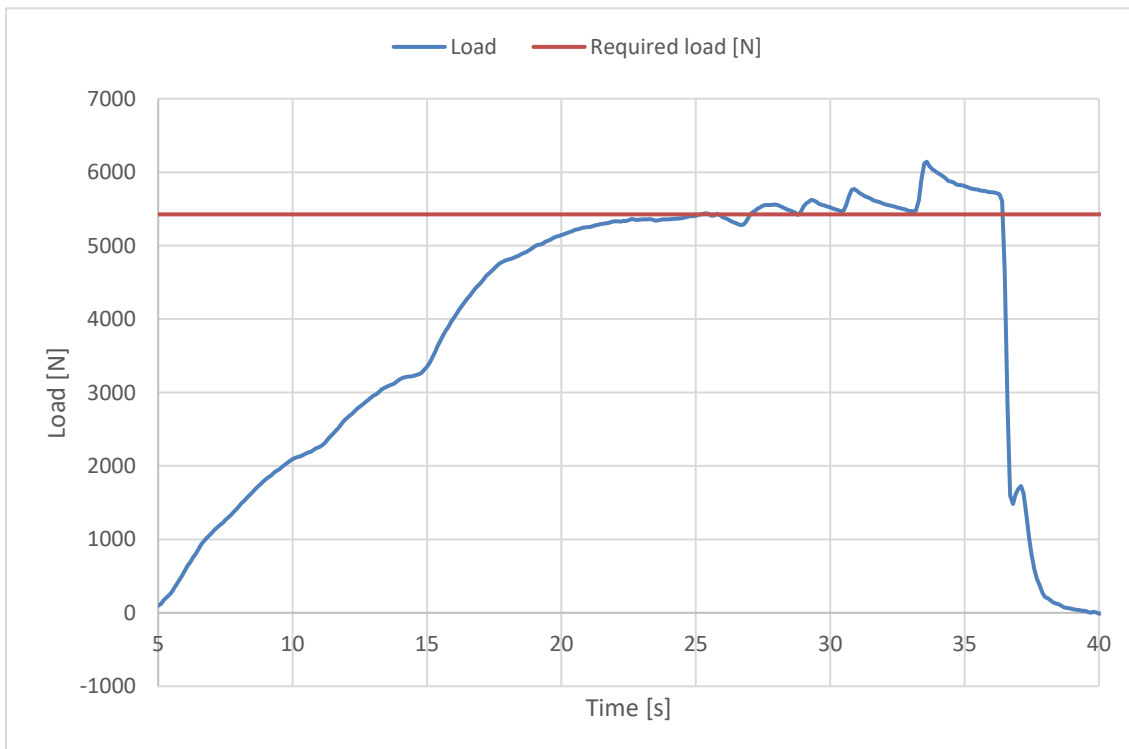
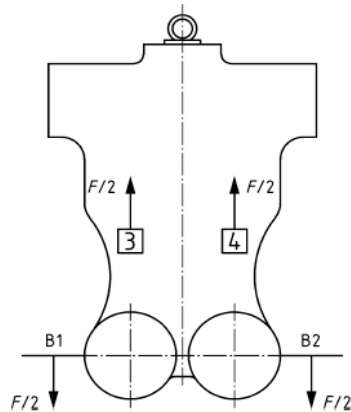
Test ID 01

Standard **EN 1651 / NfL 2024-2-785**
Reference in standard **5.5.1.1**
Test setup **Positive symmetric load (Slippage)**
Attachment points **Both main riser attachment (3,4)**
Anchor points **Dummy (B1, B2)**

Required load [g] **4.5**
Required load [N] **5400**
Minimum test duration [s] **5**

Result

Test duration [s] **7.6**
Any signs of structural failure **No**
Slippery test OK **Yes**
Test results **POSITIVE**



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Harness Structural test

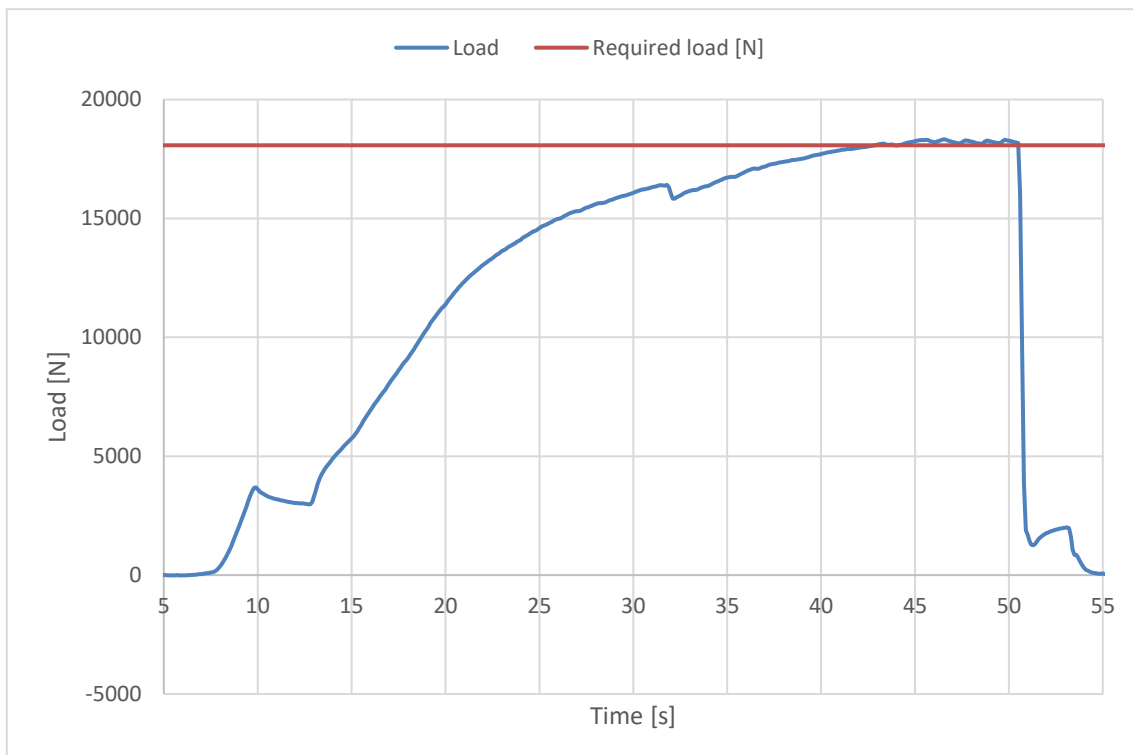
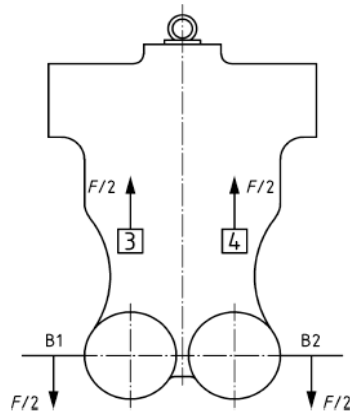
Test ID 03

Standard **EN 1651 / NfL 2024-2-785**
Reference in standard **5.5.1.1b**
Test setup **Positive symmetric load**
Attachment points **Both main riser attachment (3,4)**
Anchor points **Dummy (B1, B2)**

Required load [g] **15**
Required load [N] **18000**
Minimum test duration [s] **5**

Result

Test duration [s] **6.4**
Any signs of structural failure **No**
Slippery test OK **Yes**
Test results **POSITIVE**

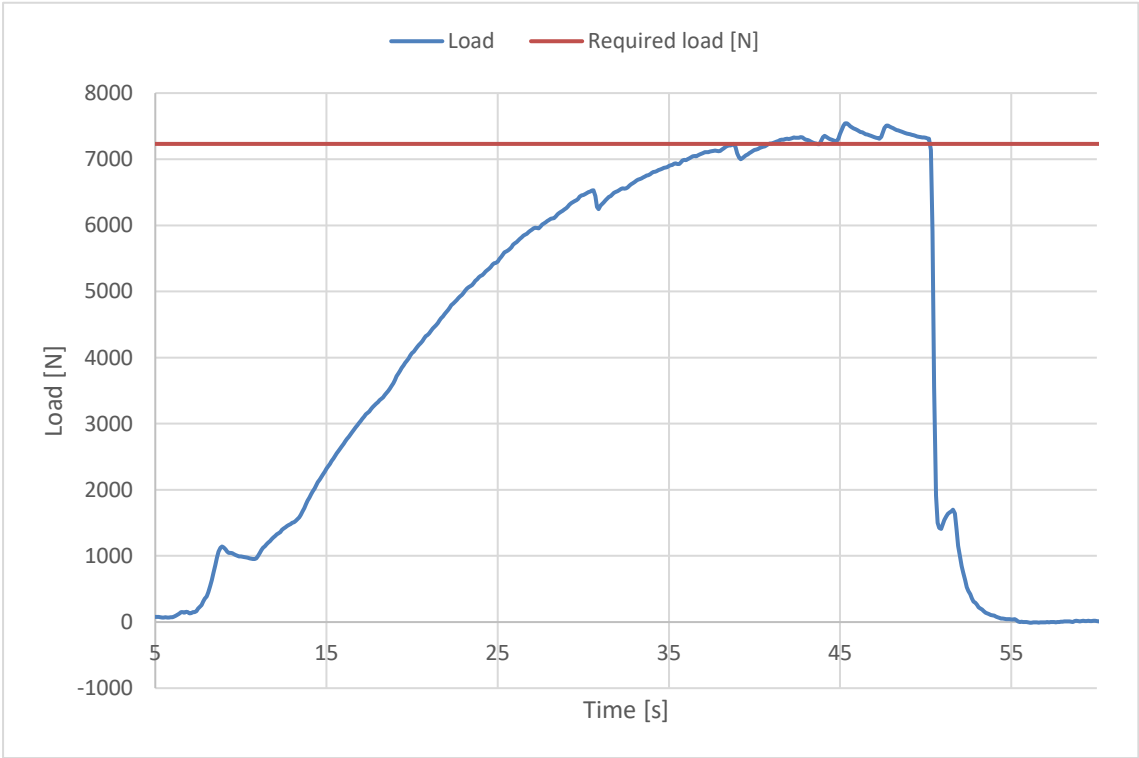
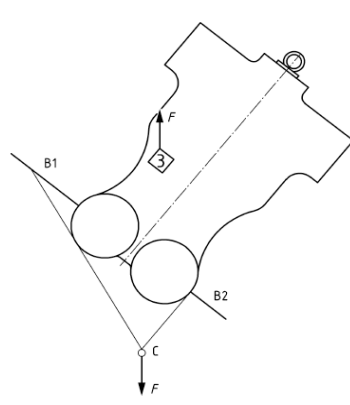


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Harness Structural test **Test ID 05**

Standard	EN 1651 / NfL 2024-2-785
Reference in standard	5.5.1.2
Test setup	Positive asymmetric load
Attachment points	One riser attachment (3 or 4)
Anchor points	Dummy (C)
Required load [g]	6
Required load [N]	7200
Minimum test duration [s]	5
Result	
Test duration [s]	6.4
Any signs of structural failure	No
Test results	POSITIVE



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Harness Structural test

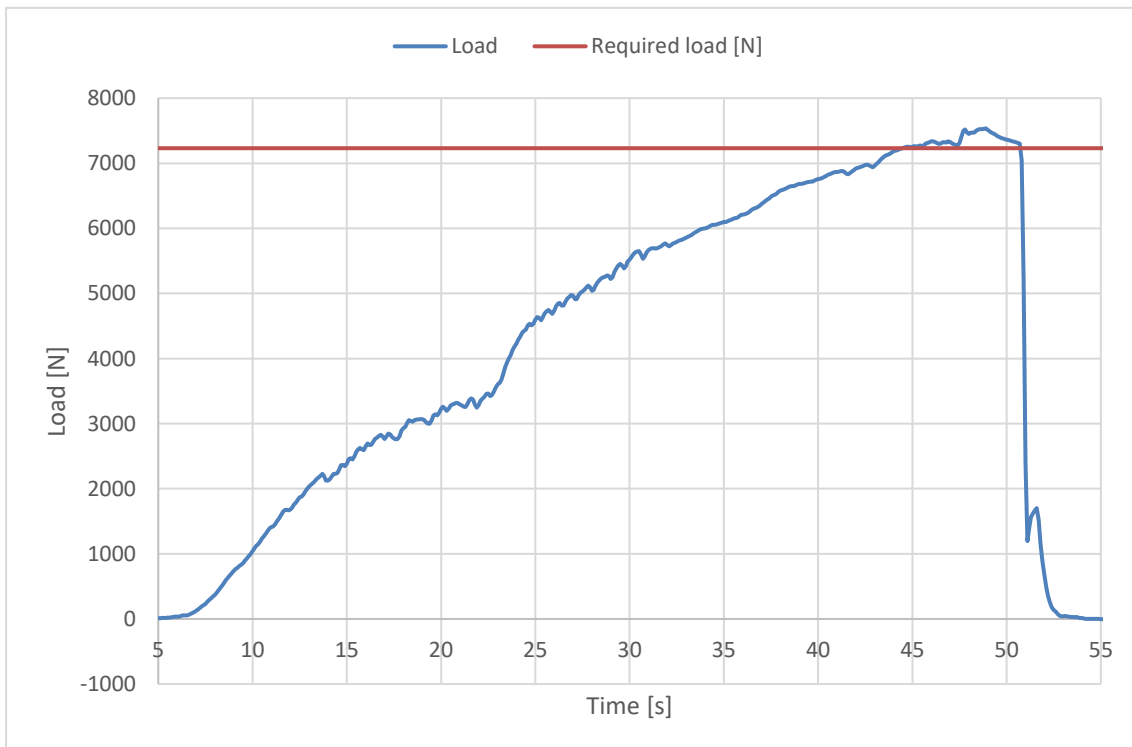
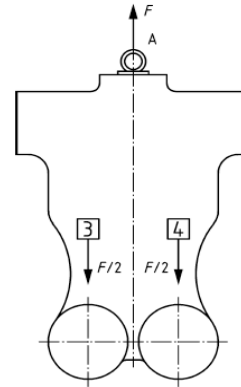
Test ID 06

Standard **EN 1651 / NfL 2024-2-785**
Reference in standard **5.5.1.6**
Test setup **Negative symmetric load**
Attachment points **Both main riser attachment (3,4)**
Anchor points **Dummy (A)**

Required load [g] **6**
Required load [N] **7200**
Minimum test duration [s] **5**

Result

Test duration [s] **6.3**
Any signs of structural failure **No**
Test results **POSITIVE**



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Harness Structural test

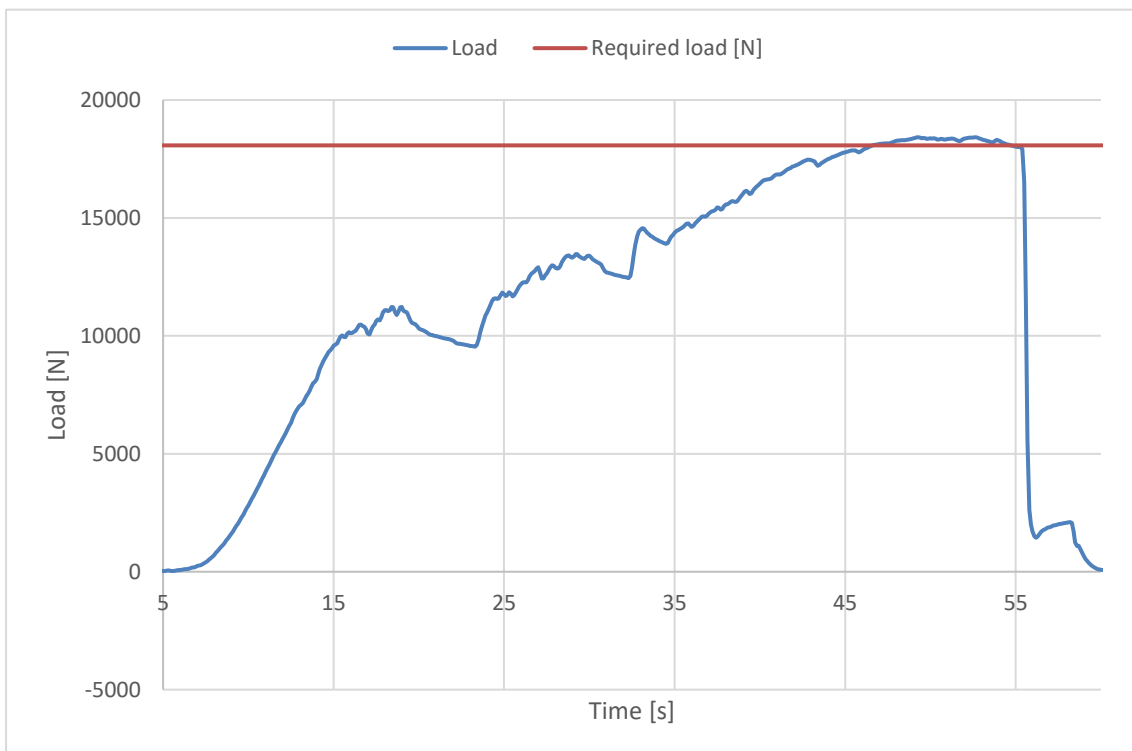
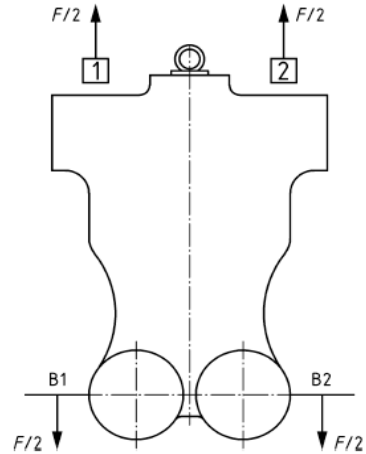
Test ID 09

Standard **EN 1651 / NfL 2024-2-785**
Reference in standard **5.5.1.3**
Test setup **Positive symmetric load rescue points**
Attachment points **Both main riser attachment (1,2)**
Anchor points **Dummy (B1,B2)**

Required load [g] **15**
Required load [N] **18000**
Minimum test duration [s] **5**

Result

Test duration [s] **8.1**
Any signs of structural failure **No**
Slippery test OK **Yes**
Test results **POSITIVE**



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Harness Structural test

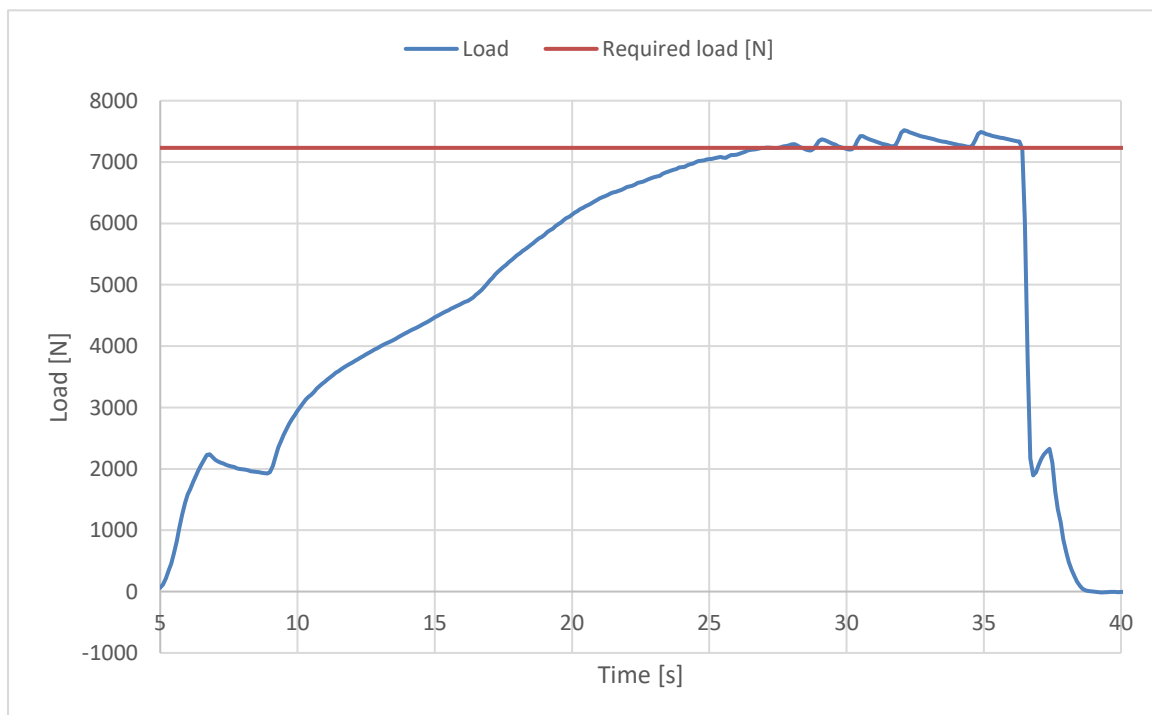
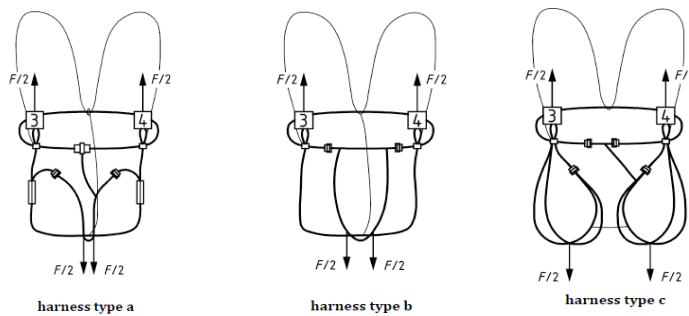
Test ID 12

Standard **EN 1651 / NfL 2024-2-785**
Reference in standard **5.5.1.7**
Test setup **Upright (landing) position load**
Attachment points **Both main riser attachment (3, 4)**
Anchor points **Both legstrap of harness (no dummy)**

Required load [g] **6**
Required load [N] **7200**
Minimum test duration [s] **5**
Harness type **type b**

Result

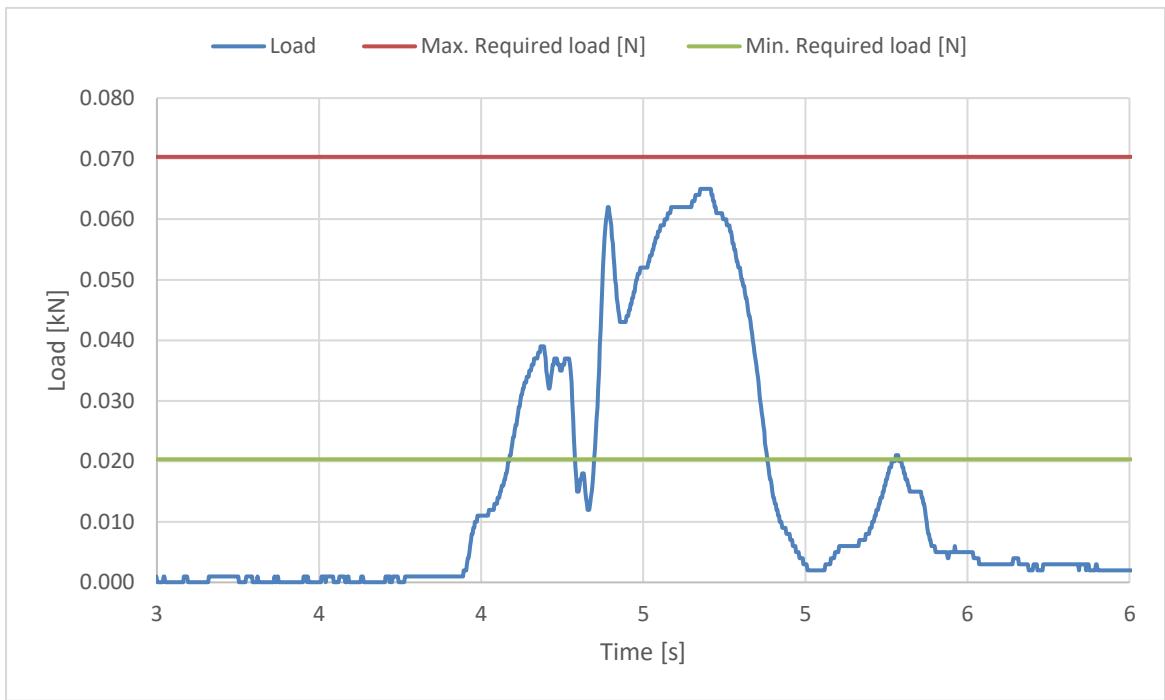
Test duration [s] **6.1**
Any signs of structural failure **No**
Slippery test OK **Yes**
Test results **POSITIVE**



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Rescue Deployment Test		Test ID RDT
Standard	EN 1651 / NfL 2024-2-785	
Reference in standard	5.5.1.11	
Test setup	Default flying position	
Attachment points	Sensor connect to handle, and pull in opening direction	
	The test is to simulate the load required to open the emergency parachute(1st action).	
Min. Required load [N]	20	
Max. Required load [N]	70	
Result		
Load for first action [N]	65.33	
Test results	POSITIVE	



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Rescue Deployment Handle strength test

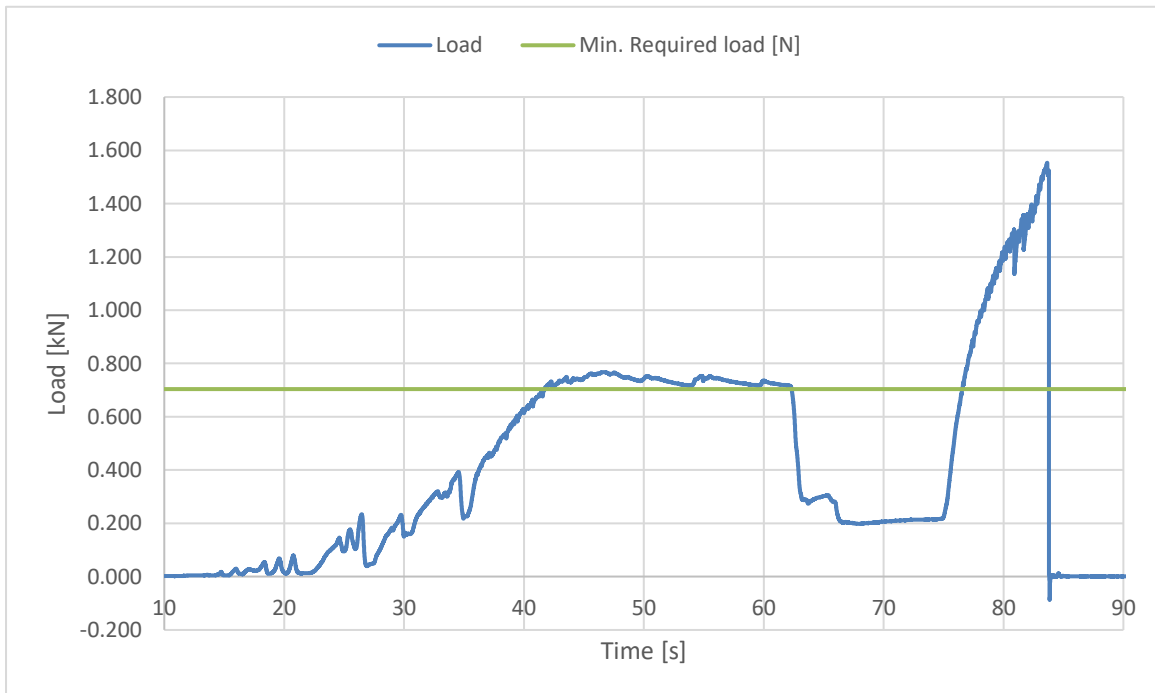
Test ID RST

Standard **EN 1651 / NfL 2024-2-785**
Reference in standard **5.3.2**
Test setup **Two end points of handle**
Attachment points **Sensor connect to end of handle, pull on the other side**
The handle must support min 700 N for 10 s, after measure breaking strength

Min. Required load [N] **700**
Minimum test duration [s] **10**

Result

Test duration [s]: **20.6**
Breaking strength [N] **764.05**
Test results **POSITIVE**



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Rescue deployment test for harness with integrated inner container Test ID RDIC

Standard	NfL 2024-2-785		
Reference	4.3.2-4.3.6		
Test setup WI 14	Release of the container at maximum volume		
Min volume (harness)	2500		
Max volume (harness)	5600		
	Volume [cm3]	Result	Test date
Emergency Parachute	Round	n/a	
Emergency Parachute	Square/Triangle	5600	POSITIVE
Emergency Parachute	Rogallo	n/a	
	Total Result	POSITIVE	

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