

Harness Structural test Report - NfL

Inspection certificate number: PH_357.2022

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: **Breeze 2**
 Type: **ABS**
 Size: **M**
 Serial number: **SHBR2M005**
 Impact pad type: ⁽¹⁾ **Inflatable**
 Clip-in weight [kg]: **120**
 Integrated container: **Yes**

Date of test: **05.03.2024**

Atmosphere AGL:

[C°]	20
RH [%]	42
[hPa]	1004

Summary of Structural test

Test id	-	Ref.	Setup	Req. Load [g]	Req. Load [N]	Min. duration [s]	Result
02	✓	5.3.2.1	Default flying position	6	7200	10	POSITIVE
03	✓	5.3.2.2	Default flying position	15	18000	5	POSITIVE
04	✓	5.3.2.3	Asymmetric, one riser	6	7200	10	POSITIVE
07	✓	5.3.2.6	Asymmetric, negative	4.5	5400	10	POSITIVE
09	✓	5.3.2.4	Rescue attachments	15	18000	5	POSITIVE
13	✓	5.3.2.7	Flying position before landing	15	18000	5	POSITIVE
14		5.3.2.5	Towing	5	6000	10	n/a

Rescue deployment test

Test id	-	NfL 2-565-20	Setup	Min load [N]	Max. load [N]	Measured [N]	Result
RRDT	✓	6.1.5	Default flying position	20	70	58.61	POSITIVE

Rescue Deployment Handle strength test

Test id	-	EN 12491	Setup	Req. Load [N]	Min. duration [s]	Breaking strength [N]	Result
RRST	✓	5.3.2	Two end points of handle	700	10	1379.77	POSITIVE

Rescue deployment test with integrated container for rescue system

Test id	-	NfL 2-565-20	Setup	Result
RDIC	✓	4.3.2-4.3.6	Default flying position	Positive

Manufacturer	Instrument	Type no	S/N	Validity
HBM	Load Sensor GE01	1-S9M/50KN-1	31314643	04.09.2023
Burster / MTS	Load sensor 10kN SL2	8431-6010-N000S000	593507	21.04.2026
JDC elec	Geos n°11 Skywatch	Geos n°11	Unit11	18.06.2025

Air Turquoise SA, having thoroughly assessed the sample mentioned above, declares it was found conform with
 Airworthiness Requirements NfL 2-565-20 - EN12491:2015 5.3.2

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

⁽¹⁾ If Impact pad available, see test report no. 94.22 and inspection certificate no. 94.20

Calculated values 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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Inspection certificate number: **PH_357.2022**

model: **Breeze 2**

Harness Structural test

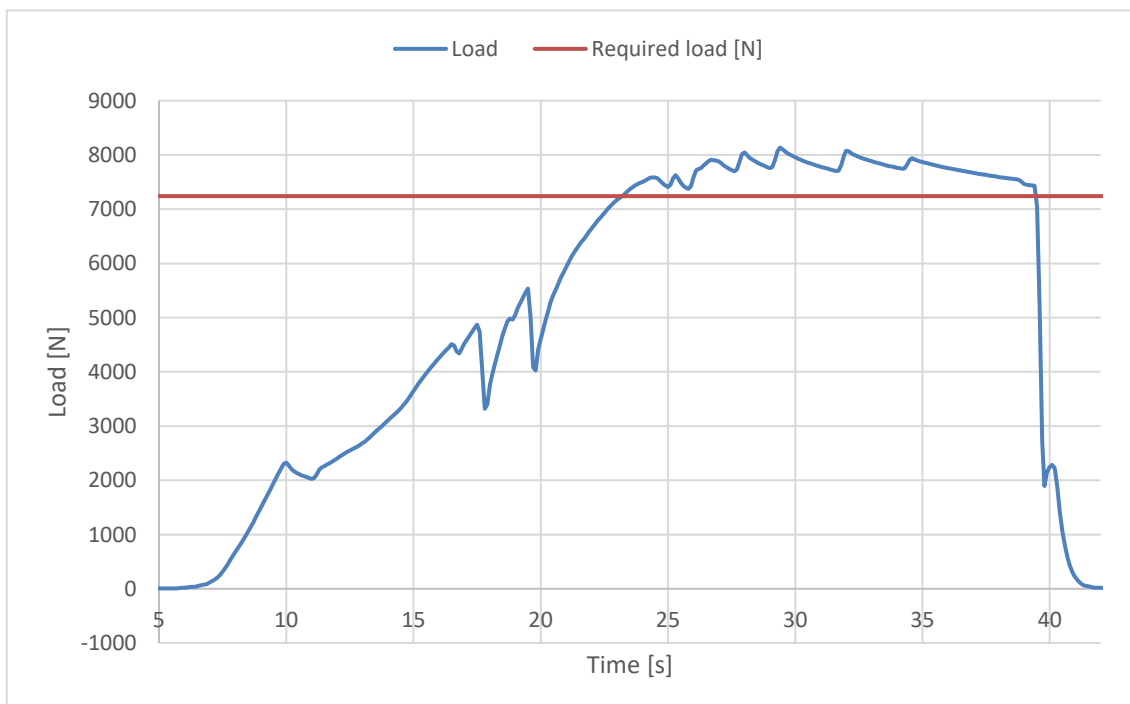
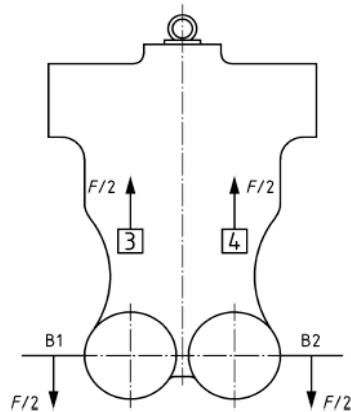
Test ID 02

Standard **NfL 2-565-20**
Reference **5.3.2.1**
Test setup **Default flying position**
Attachment points **Both main riser attachment (3,4)**
Anchor points **Dummy (B1, B2)**

Required load [g] **6**
Required load [N] **7200**
Minimum test duration [s] **10**

Result

Test duration [s] **16.2**
Any signs of structural failure **No**
Test results **POSITIVE**



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model: **Breeze 2**

Harness Structural test

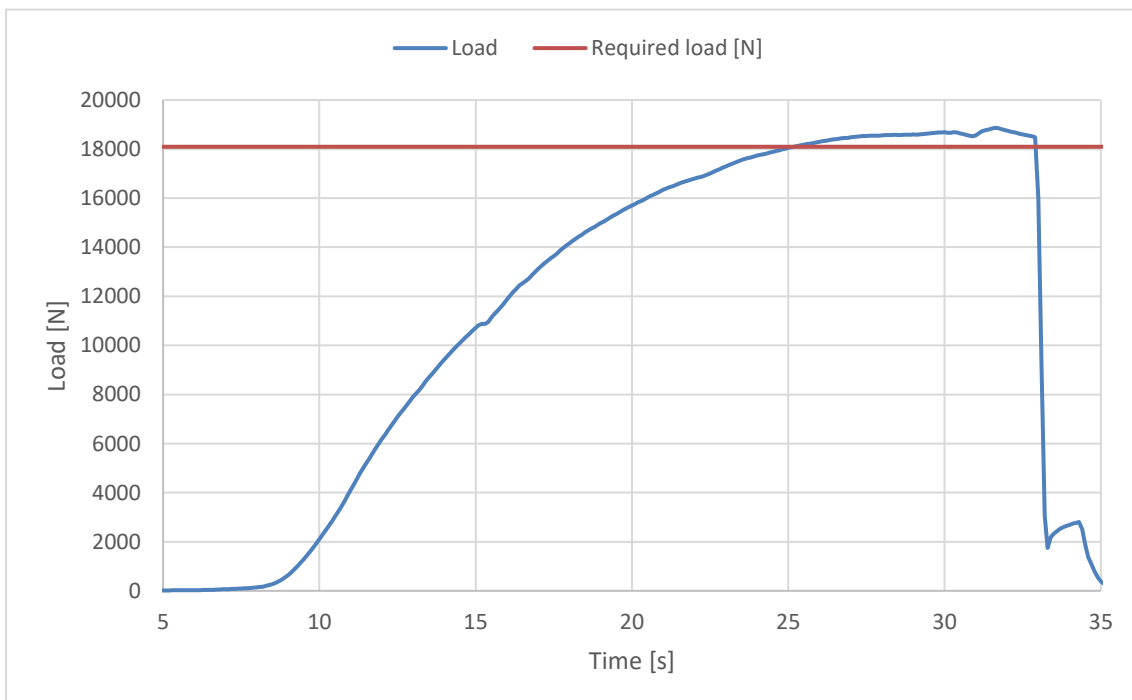
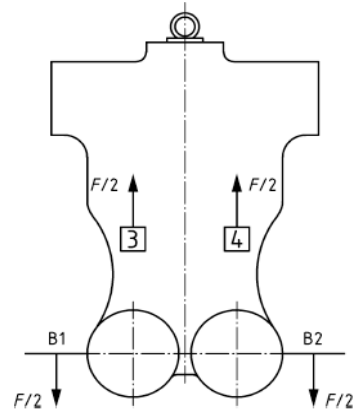
Test ID 03

Standard **NfL 2-565-20**
Reference **5.3.2.2**
Test setup **Default flying position**
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] **7.8**
Any signs of structural failure **No**
Test results **POSITIVE**



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model: **Breeze 2**

Harness Structural test

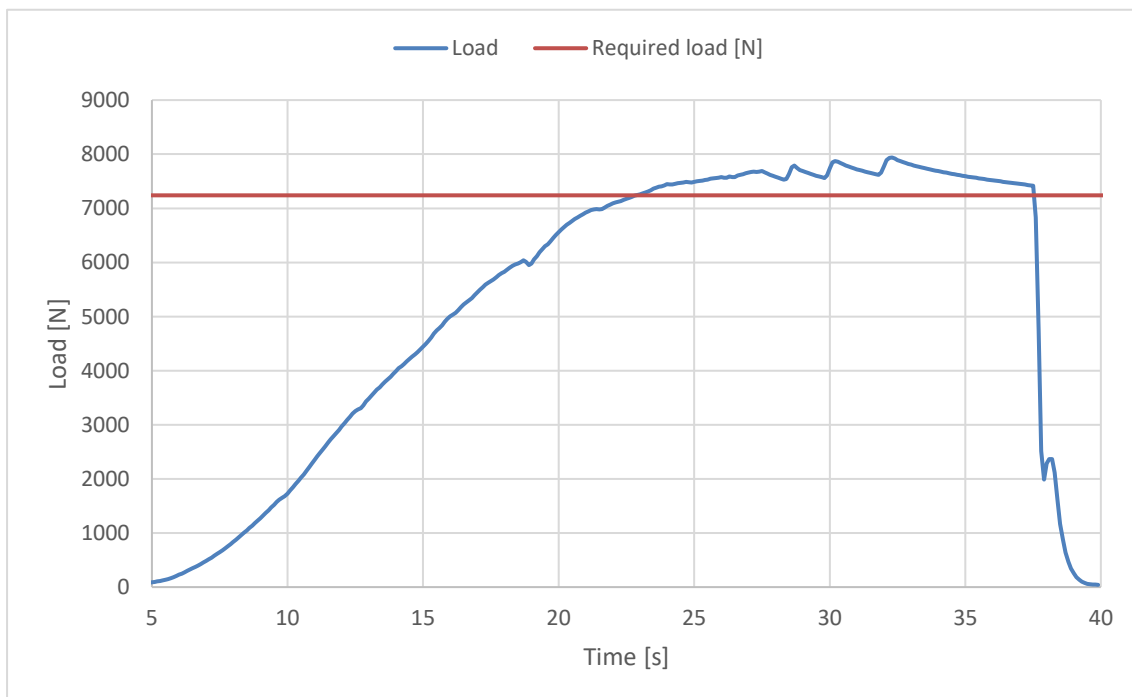
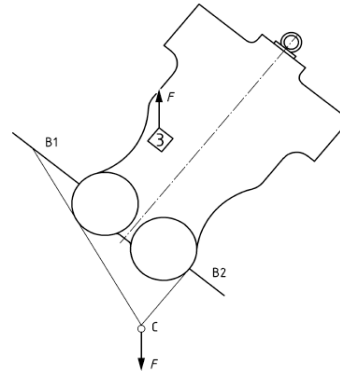
Test ID 04

Standard **NfL 2-565-20**
Reference **5.3.2.3**
Test setup **Asymmetric, one riser**
Attachment points **One main riser attachment (3)**
Anchor points **Dummy (B1,B2)**

Required load [g] **6**
Required load [N] **7200**
Minimum test duration [s] **10**

Result

Test duration [s] **14.7**
Any signs of structural failure **No**
Test results **POSITIVE**



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model: **Breeze 2**

Harness Structural test

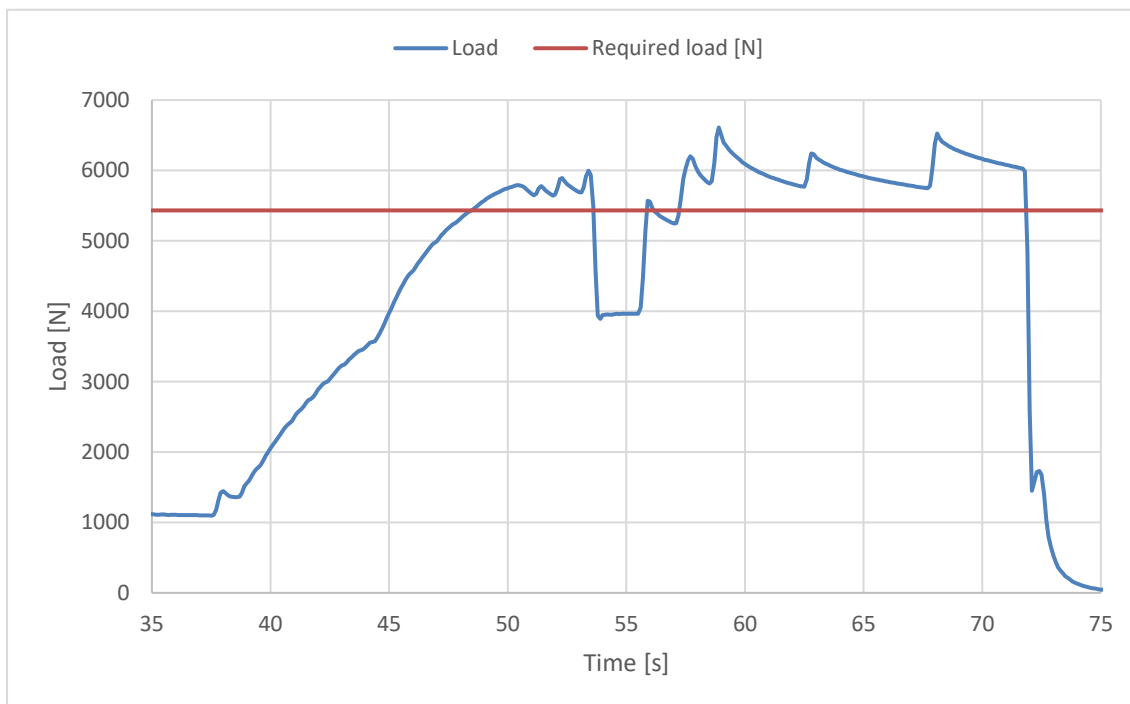
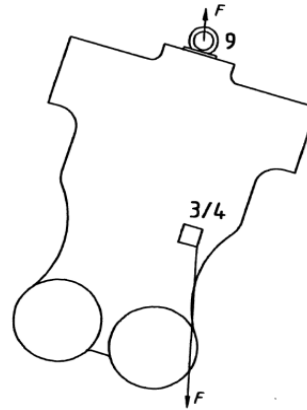
Test ID 07

Standard **NfL 2-565-20**
Reference **5.3.2.6**
Test setup **Asymmetric, negative**
Attachment points **One main riser attachment (3 or 4) downwards**
Anchor points **Dummy (9)**

Required load [g] **4.5**
Required load [N] **5400**
Minimum test duration [s] **10**

Result

Test duration [s] **14.6**
Any signs of structural failure **No**
Test results **POSITIVE**



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model: **Breeze 2**

Harness Structural test

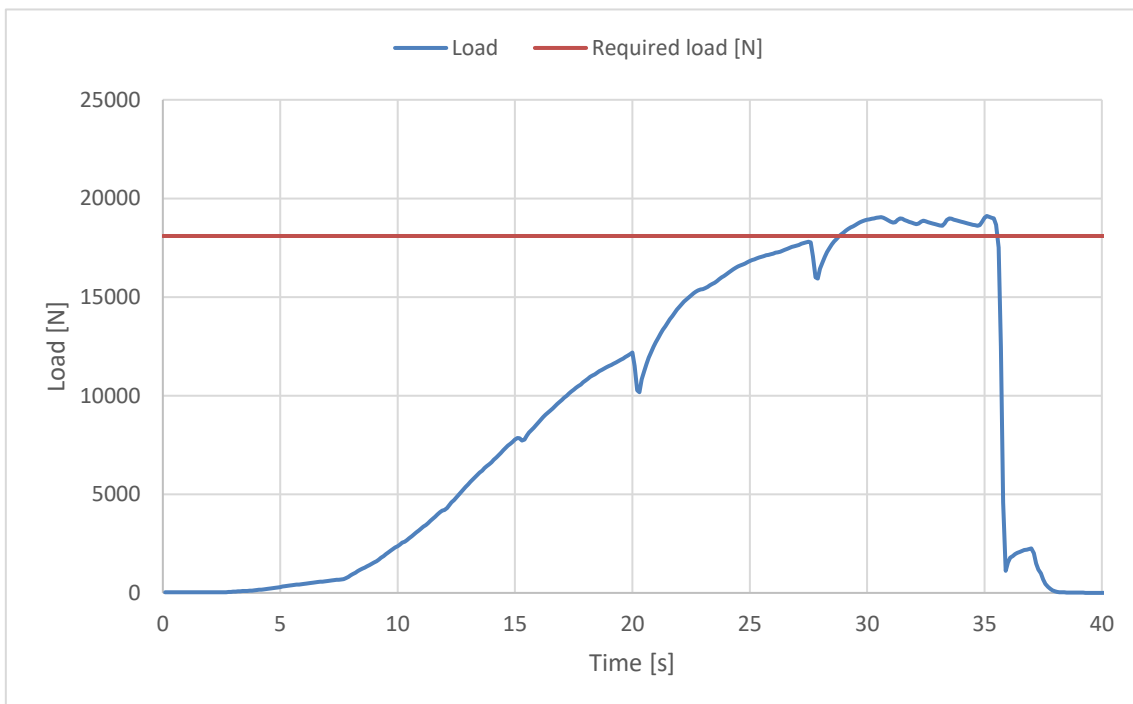
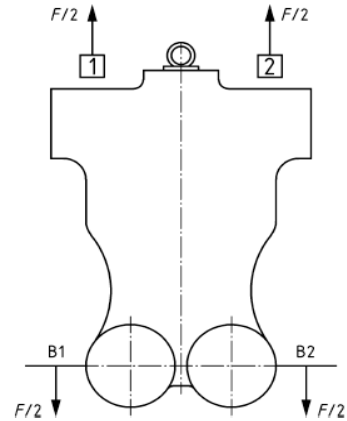
Test ID 09

Standard **NfL 2-565-20**
Reference **5.3.2.4**
Test setup **Rescue attachments**
Attachment points **Rescue 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] **6.7**
Any signs of structural failure **No**
Test results **POSITIVE**



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model: **Breeze 2**

Harness Structural test

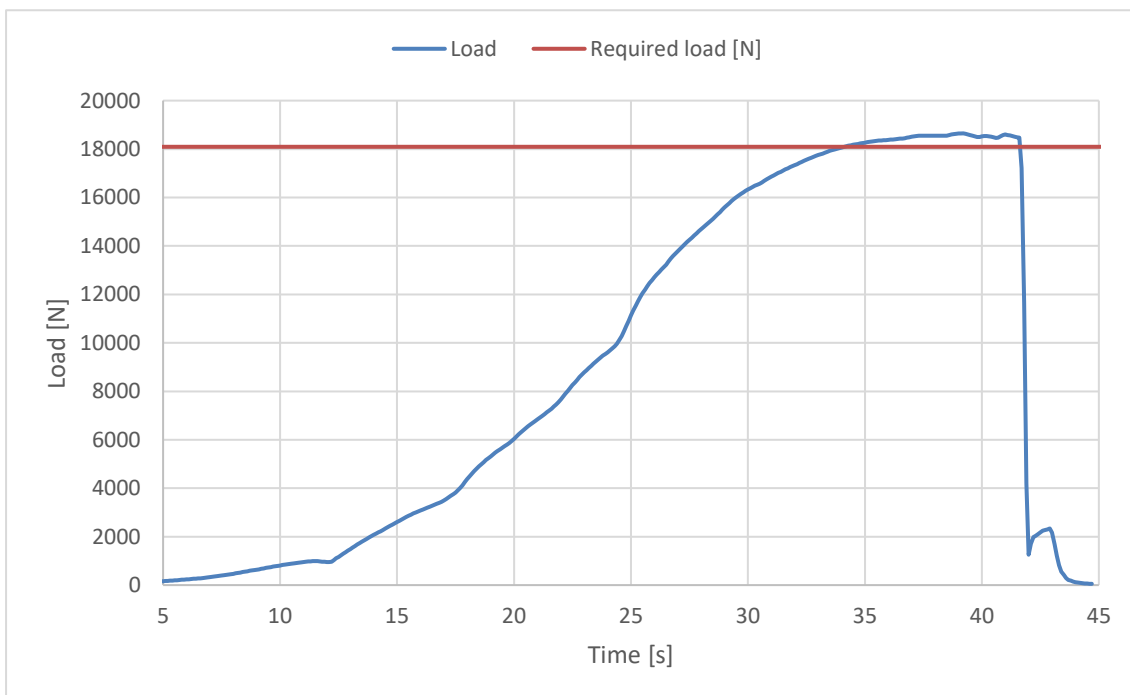
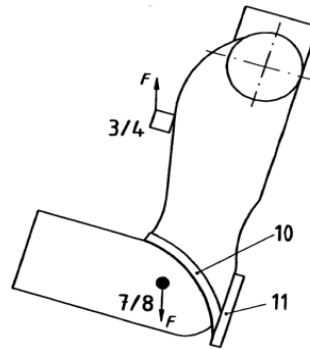
Test ID 13

Standard **NfL 2-565-20**
Reference **5.3.2.7**
Test setup **Flying position before landing**
Attachment points **Both main riser attachment (3,4)**
Anchor points **Dummy (7,8)**

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

Result

Test duration [s] **7.5**
Any signs of structural failure **No**
Test results **POSITIVE**



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model: **Breeze 2**

Rescue Deployment Test

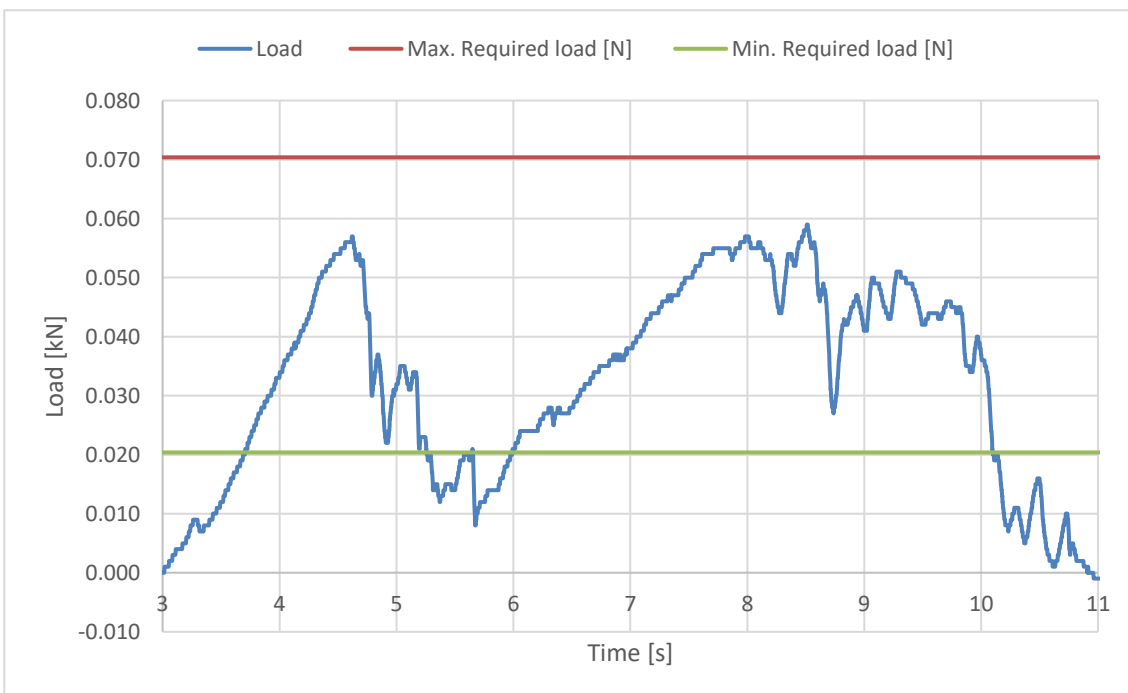
Test ID RRDT

Standard **NfL 2-565-20**
Reference **6.1.5**
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] **58.61**
Test results **POSITIVE**



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model: **Breeze 2**

Rescue Deployment Handle strength test

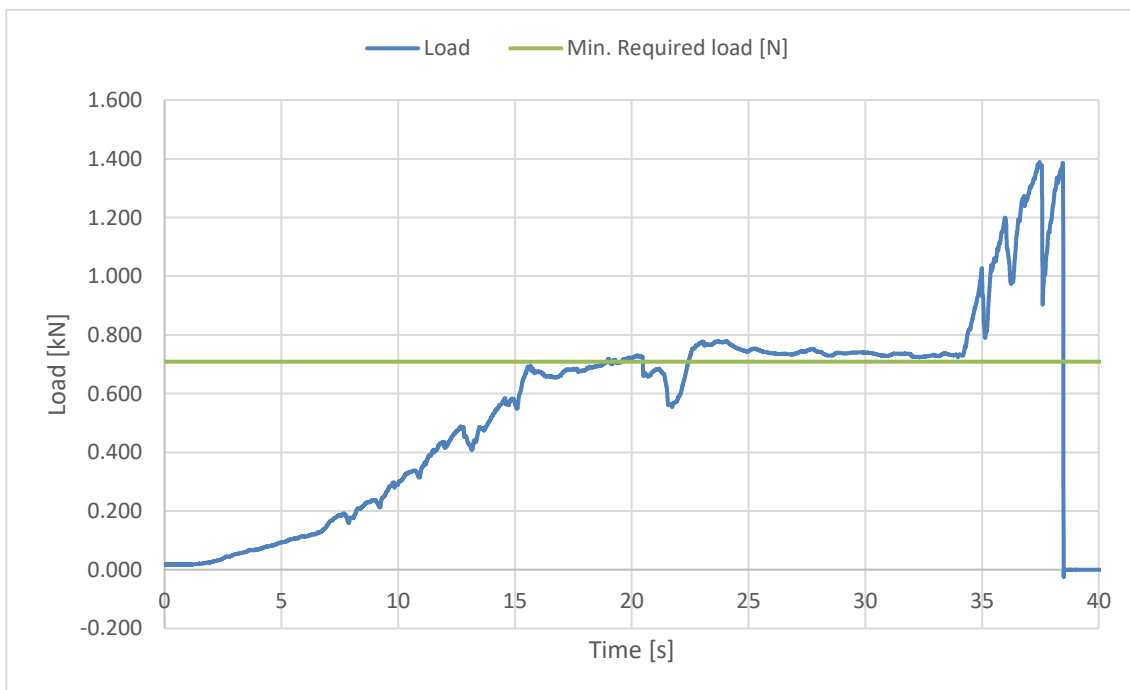
Test ID RRST

Standard **EN12491:2015**
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]: **16.0**
Breaking strength [N] **1379.77**
Test results **POSITIVE**



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model: **Breeze 2**

Deployment test in flying position with a harness with integrated inner container

Test ID RDIC

Standard	NfL 2-565-20		
Reference	4.3.2-4.3.6		
Test setup WI 02	Default flying position		
Min volume (harness)	2000		
Max volume (harness)	5600		
		Volume [cm^3]	Result
Emergency Parachute	Round	6000	Positive
Emergency Parachute	Square/Triangle		n/a
Emergency Parachute	Rogallo		n/a
Total Result		Positive	

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