

Harness inspection certificate

Inspection certificate number: **PH_260.2019**

Impact pad number: **PH_260.2019**

Manufacturer data

Manufacturer name: **Supair Sàrl**
Representative: **Laurent Chiabaut**
Street: **34, rue Adrastée**
Post code / place: **74650 Chavanod**
Country: **France**

Sample data: Harness Impact pad

| | | | |
|---|-----------------------|---------------------------------------|-------------------|
| Name: | Altirando Lite | Name Impact pad: ⁽¹⁾ | n/a |
| Type: | ABS | Impact pad integrated: ⁽¹⁾ | Yes |
| Size: | L | Impact pad type: | Airbag |
| Weight of Sample [kg]: | 2.924 | Weight of Sample [kg]: ⁽¹⁾ | n/a |
| Serial number: | ATL_L_VS.1 | Serial number: ⁽¹⁾ | n/a |
| Clip-in weight [kg]: | 120 | Date of reception: | 19.02.2019 |
| Integrated container for rescue system: | Yes | | |
| Volume container [cm ³]: | | 7000 max | |
| | | 3000 min | |
| Date of reception: | 19.02.2019 | | |

Test report summary Structural test Impact pad test

| | | |
|--------|-------------------|-------------------|
| Result | POSITIVE | POSITIVE |
| Place | Villeneuve | Villeneuve |
| Date | 07.03.2019 | 07.03.2019 |

Issue data

Place of declaration: **Villeneuve**
Date of issue: **13.05.2019**
Managing Director: **Alain Zoller**
Signature:



This signature approve the validity of the test reports if available; no. 94.21 (test id R0,R2,R6,R8,R9,R10,RRDT,RRST) and no. 94.22 (test id: P1,P2,PR1,PR2)
Air Turquoise SA, having thoroughly assessed the sample mentioned above, declare it was found conform with all requirements defined by the following norms:
European Standard **EN1651 :1999**, and **EN12491:2015 chapter 5.3.2 - Airworthiness Requirements LTF NfL II 91/09 chapter 4.2.1, 5, 6.1.5 and 6.1.8**

⁽¹⁾ If Impact pad is NOT integrated in the harness, it will have independently Inspection number, and serial number. Definition of integrated impact pad is impact pad which can not be dismantled from the harness, e.g. airbag.

Present declaration's scope only extends to the conformity of a given sample, on a given date and in a given place – as mentioned here above.

This inspection certificate contain the following test and is complet with the test, if available, report: 94.21 and 94.22

Harness Impact Pad Report

Inspection certificate number: **PH_260.2019**

Manufacturer data:

Manufacturer name: **Supair Sàrl**
 Representative: **Laurent Chiabaut**
 Street: **34, rue Adrastée**
 Post code place: **74650 Chavanod**
 Country: **France**

Harness model: **Alirando Lite**

Sample data:

Name impact pad: **n/a**
 Impact pad integrated: **Yes**
 Impact pad type: **Airbag**
 Serial number: **n/a**
 Weight of sample [kg]: **n/a**
 Date of test: **07.03.2019**

Atmosphere AGL:

| | |
|--------|--------------|
| [C°] | 20.9 |
| RH [%] | 32 |
| [hPa] | 963.3 |

Summary of Impact pad test ⁽¹⁾

| Test id | – | Test configuration ⁽²⁾ | Max Peak of Impact [g] ⁽³⁾ | Duration at 38 [g] in [ms] ⁽⁴⁾ | Duration at 20 [g] in [ms] ⁽⁵⁾ | Diff. of test 1 and 2 [%] ⁽⁶⁾ | Result |
|---------|---|---|---------------------------------------|---|---|--|-----------------|
| P | V | Test sample attached to dummy in flying position, without emergency parachute | 24.37 | 0.00 | 11.67 | -16.74 | POSITIVE |
| PR | V | Test sample attached to dummy in flying position, Include emergency parachute | 24.05 | 0.00 | 6.67 | 1.53 | POSITIVE |

| Manufacture | Instrument | Type no | S/N | Validity Calibration |
|-------------|---------------------|-----------|---------|----------------------|
| Burster/MTS | Accelerometer 100 g | 89010-100 | 1263567 | 04.08.2020 |
| JDC elec | Geos n°11 Skywatch | Geos n°11 | 22 | 08.05.2019 |

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

⁽¹⁾ 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%.

⁽²⁾ The dummy is lifted minimum up to 1.65 m, and impact pad is mounted on. Where the impact occurs, measure distance from bottom of impact pad to ground.

⁽³⁾ Maximum peak of impact should be less or equal to 50 [g], ⁽⁴⁾ If any, the maximum duration in at 38 [g] should be less or equal to 7 [ms], ⁽⁵⁾ If any, the maximum duration in at 20 [g] should be less or equal to 25 [ms], ⁽⁶⁾ The test should be done twice, and the 2nd test the maximum peak should not differ more than 20% from the first test, maximum peak.

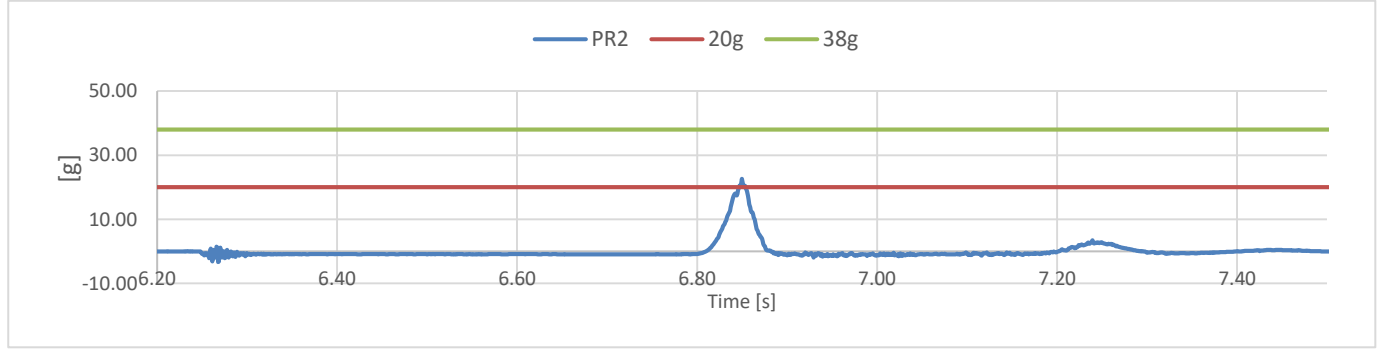
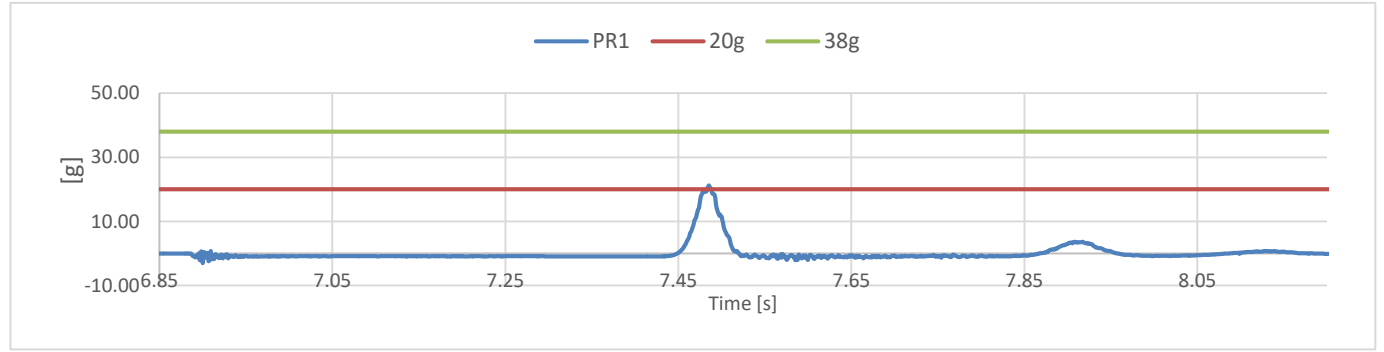
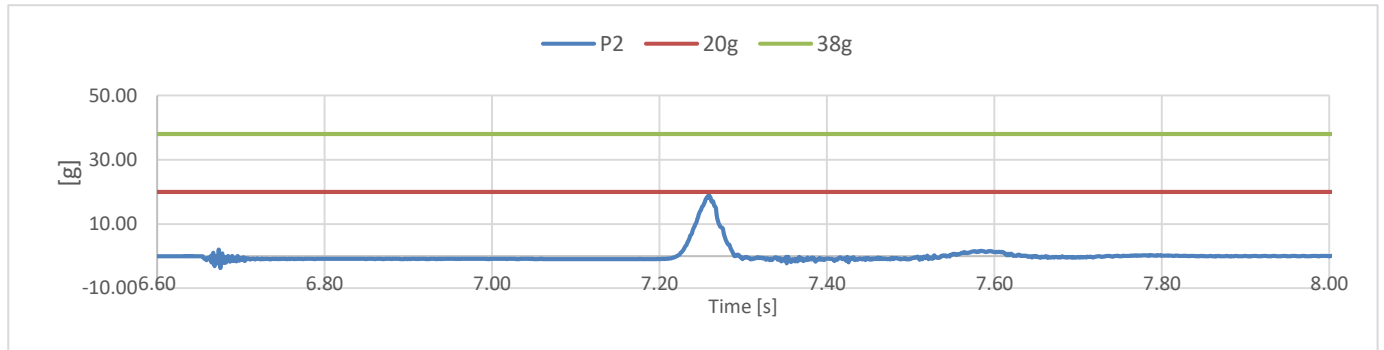
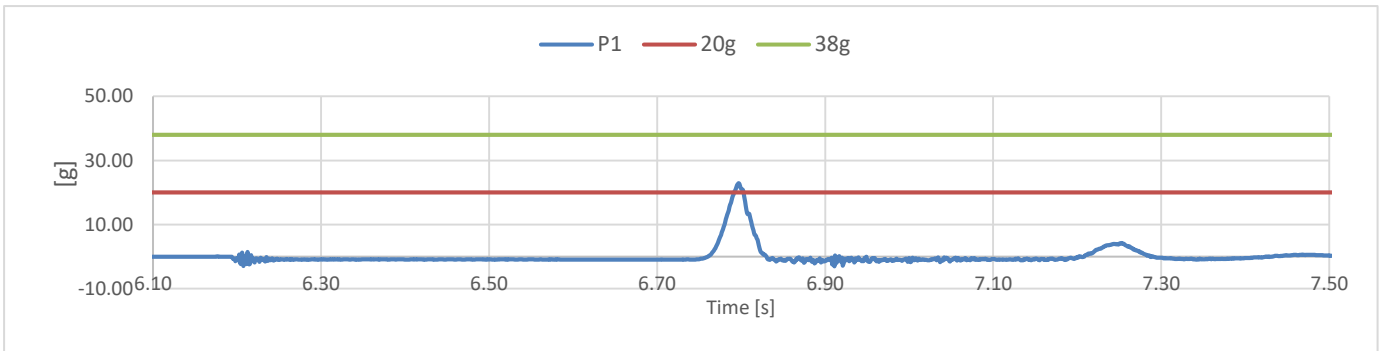
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Inspection certificate number: **PH_260.2019**

Name impact pad: **n/a**

Test results of Impact pad test

| | without emergency parachute | | include emergency parachute | |
|------------------------------------|-----------------------------|--------------|-----------------------------|---------------|
| | P1 | P2 | PR1 | PR2 |
| Maximum Peak of impact [g] | 24.37 | 20.29 | 22.52 | 24.05 |
| Impact duration at +38 [g] in [ms] | 0.00 | 0.00 | 0.00 | 0.00 |
| Impact duration at +20 [g] in [ms] | 11.67 | 0.00 | 5.00 | 6.67 |
| Uncertainty k=2[g] | 1.43 | 1.19 | 1.32 | 1.41 |
| Difference of test 1 and 2 [%] | 100.00 | 83.26 | 100.00 | 106.79 |



AIR TURQUOISE SA | PARA-TEST.COM
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Test laboratory for paragliders, paraglider harnesses
and paraglider reserve parachutes



Paragliding Harness

Inspection number : **PH_260.2019**
Manufacturer : **Supair Sàrl**
Model and size : **Altirando Lite L**
Maximum pilot weight [kg] : **120**
Integrated container for rescue system: **Yes**
If Yes. Volume of the container [cm³] : **3000 min 7000 max**
Serial number: _____
Production date (year / month) : _____

Harness protector (impact pad)

Impact pad type: **Airbag**
Impact pad integrated: **Yes**
Impact pad number: **PH_260.2019**
If not integrated : Manufacturer Serial number:
Production date (year / month) : _____

Warning : Read the operating manual before using this equipment!

A sample has been tested and certifies its conformity with the following standard: **EN1651:1999, EN12491:2015 and LTF NfL II 91/09 chapter 4 and 6**. This model corresponds with the tested sample and its airworthiness.

RE | rev 01 | 09.03.2018 | ISO 94.20

Harness Structural test Report

Inspection certificate number: **PH_260.2019**
Manufacturer data:

Manufacturer name: **Supair Sàrl**
 Representative: **Laurent Chiabaut**
 Street: **34, rue Adrastée**
 Post code place: **74650 Chavanod**
 Country: **France**

Sample data:

Name: **Altirando Lite**
 Type: **ABS**
 Size: **L**
 Serial number: **ATL_L_VS.1**
 Impact pad type: ⁽¹⁾ **Airbag**
 Clip-in weight [kg]: **120**

Date of test: **07.03.2019**
Atmosphere AGL:

| | |
|--------|--------------|
| [C°] | 24.1 |
| RH [%] | 31 |
| [hPa] | 977.3 |

Summary of Structural test

| Test id | - EN 1651 | Setup | Req. Load [g] | Req. Load [N] | Min. duration [s] | Result |
|---------|-----------|--------------------------------|---------------|---------------|-------------------|-----------------|
| R0 | ✓ 5.3.2.1 | Default flying position | 6 | 7200 | 10 | POSITIVE |
| R2 | ✓ 5.3.2.2 | Default flying position | 15 | 18000 | 5 | POSITIVE |
| R4 | ✓ 5.3.2.7 | Flying position before landing | 15 | 18000 | 5 | POSITIVE |
| R6 | ✓ 5.3.2.4 | Rescue attachments | 15 | 18000 | 5 | POSITIVE |
| R8 | ✓ 5.3.2.3 | Asymmetric, one riser | 6 | 7200 | 10 | POSITIVE |
| R9 | 5.3.2.5 | Towing | 5 | 6000 | 10 | n/a |
| R10 | ✓ 5.3.2.6 | Asymmetric, negative | 4.5 | 5400 | 10 | POSITIVE |

Rescue deployment test

| Test id | - NfL II 91/09 | Setup | Min load [N] | Max. load [N] | Measured [N] | Result |
|---------|----------------|-------------------------|--------------|---------------|--------------|-----------------|
| RRDT | ✓ 6.1.5 | Default flying position | 20 | 70 | 54.67 | 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 | 1261.38 | POSITIVE |

| Manufacture | Instrument | Type no | S/N | Validity Calibration |
|-------------|--------------------|--------------|----------|----------------------|
| HBM | Load Sensor GE01 | 1-S9M/50KN-1 | 31314643 | 14.10.2019 |
| Burster | Sensor Burster | 8431-10000 | 1185483 | 01.06.2020 |
| JDC elec | Geos n°11 Skywatch | Geos n°11 | 22 | 08.05.2019 |

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 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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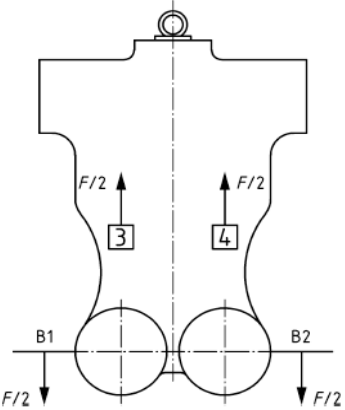
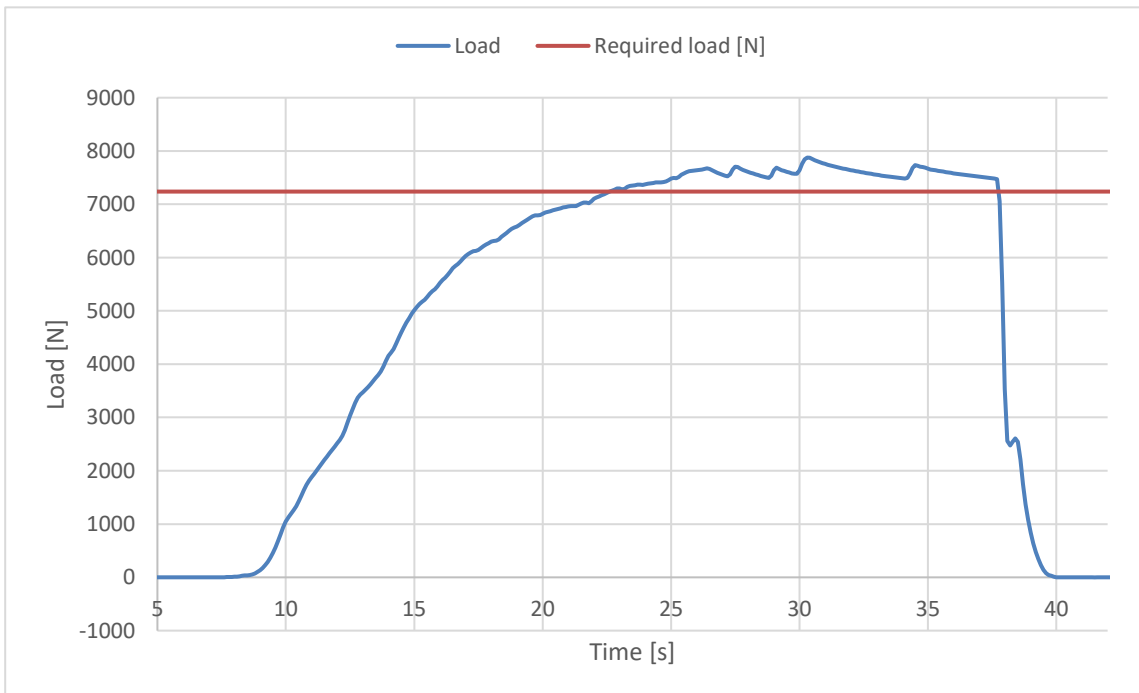
Inspection certificate number: **PH_260.2019**

model: **Altirando Lite L**

Harness Structural test

Test ID R0

| | | |
|---------------------------------|---|-----|
| Standard | EN 1651:1999 | 120 |
| Reference in standard | 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] | 15.1 | |
| Any signs of structural failure | No | |
| Test results | POSITIVE | |

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Inspection certificate number: **PH_260.2019**

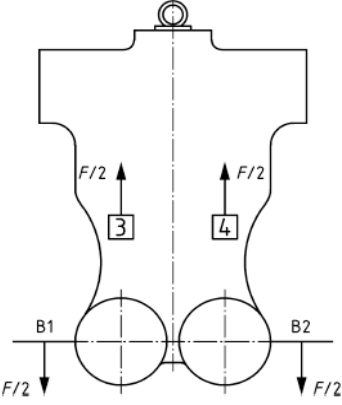
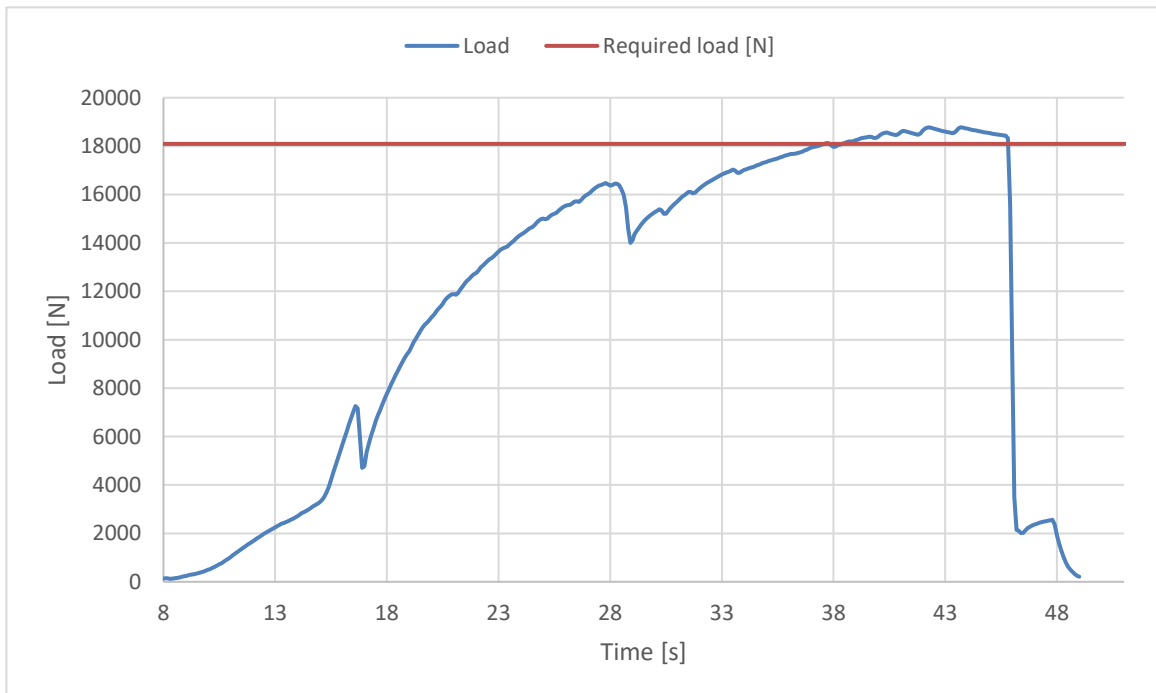
model: **Altirando Lite L**

Harness Structural test

Test ID R2

| | |
|---------------------------------|---|
| Standard | EN 1651:1999 |
| Reference in standard | 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] | 7.5 |
| Any signs of structural failure | No |
| Test results | POSITIVE |

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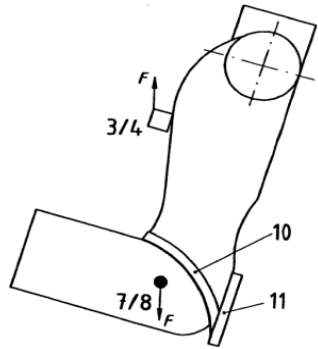
Inspection certificate number: **PH_260.2019**

model: **Altirando Lite L**

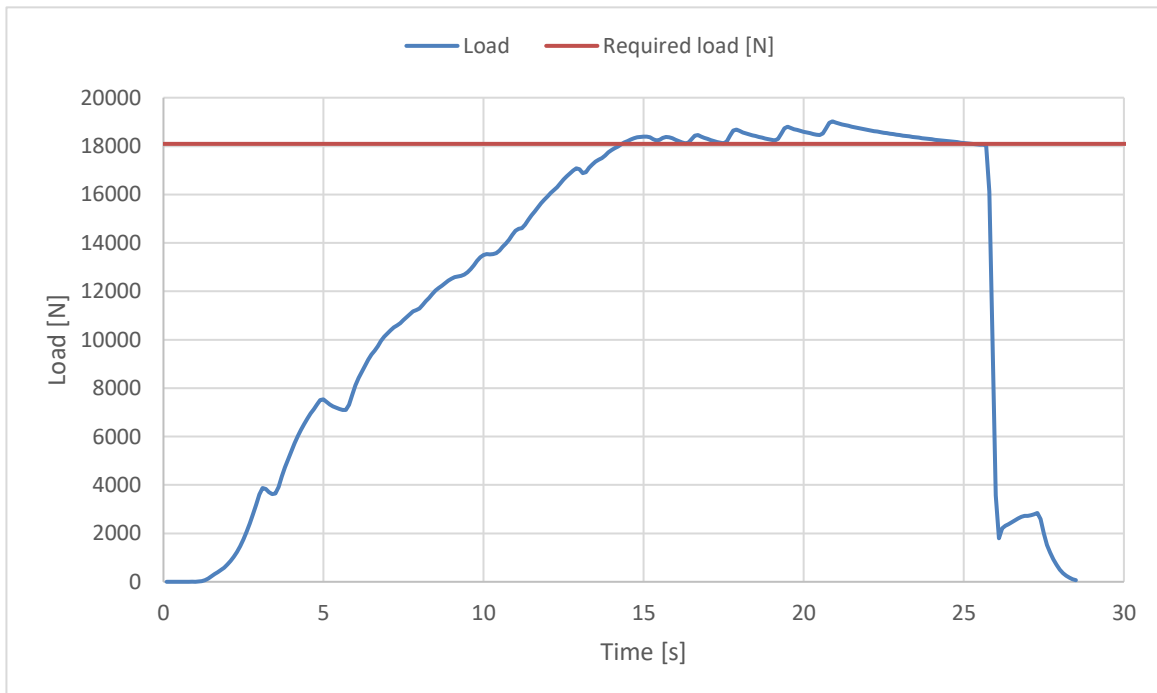
Harness Structural test

Test ID R4

| | |
|---------------------------------|---|
| Standard | EN 1651:1999 |
| Reference in standard | 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] | 10.9 |
| Any signs of structural failure | No |
| Test results | POSITIVE |



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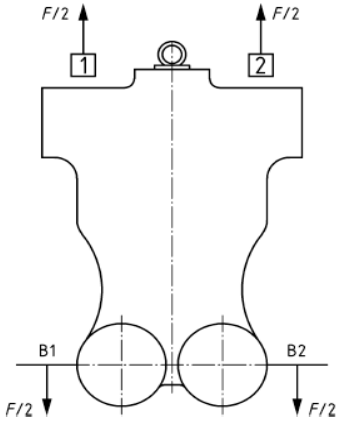
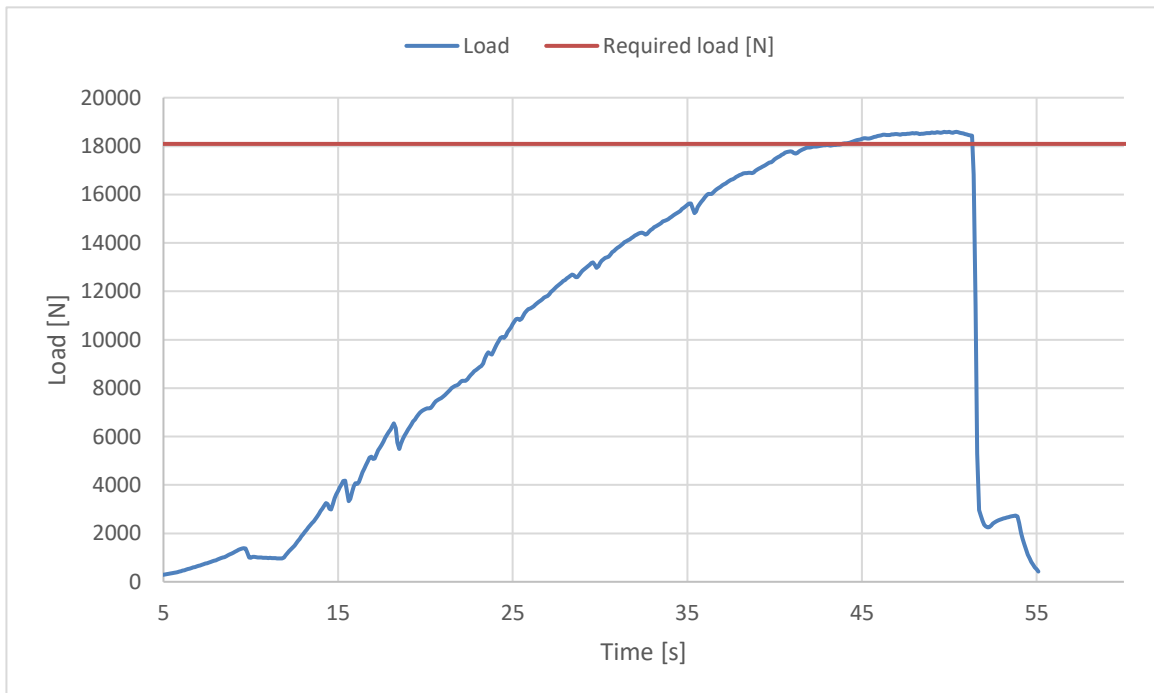
model: **Altirando Lite L**

Harness Structural test

Test ID R6

| | |
|---------------------------------|--------------------------------------|
| Standard | EN 1651:1999 |
| Reference in standard | 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] | 7.5 |
| Any signs of structural failure | No |
| Test results | POSITIVE |

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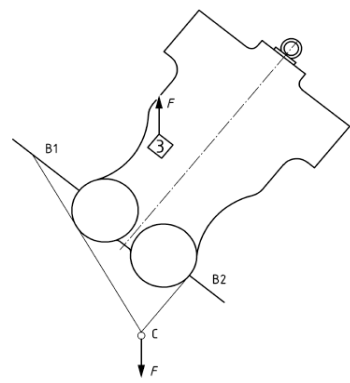
Inspection certificate number: **PH_260.2019**

model: **Altirando Lite L**

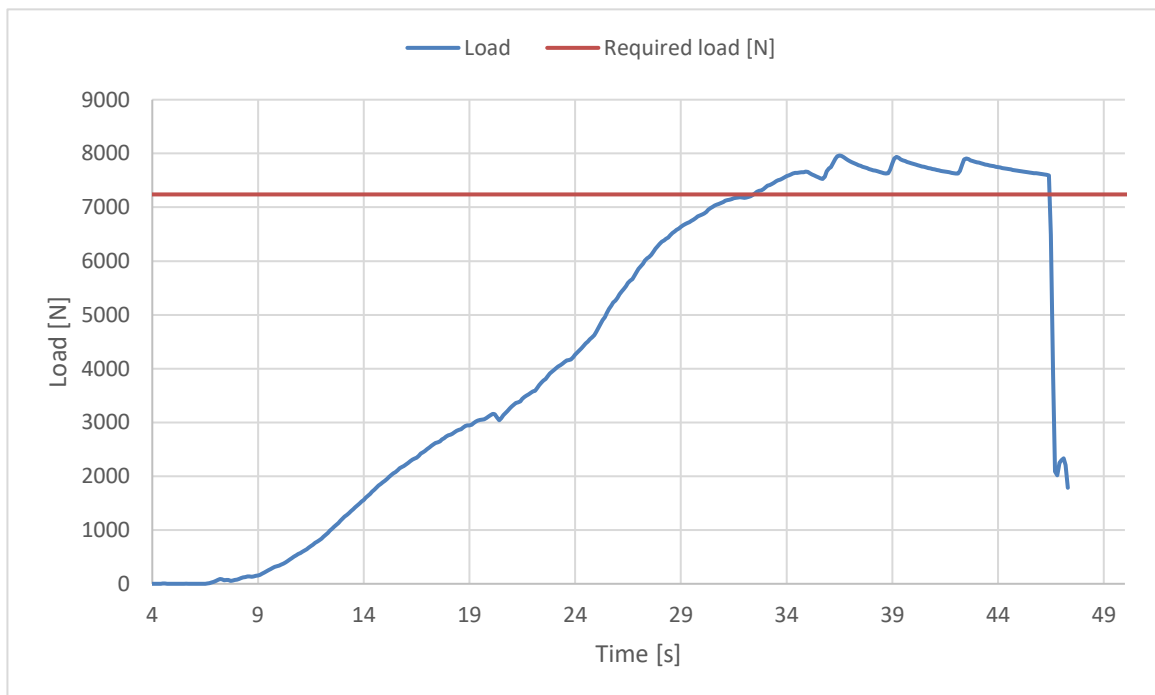
Harness Structural test

Test ID R8

| | |
|---------------------------------|--------------------------------------|
| Standard | EN 1651:1999 |
| Reference in standard | 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 |
| Any signs of structural failure | No |
| Test results | POSITIVE |



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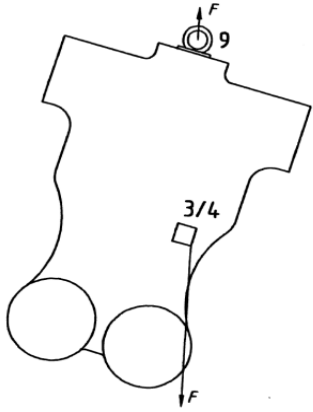
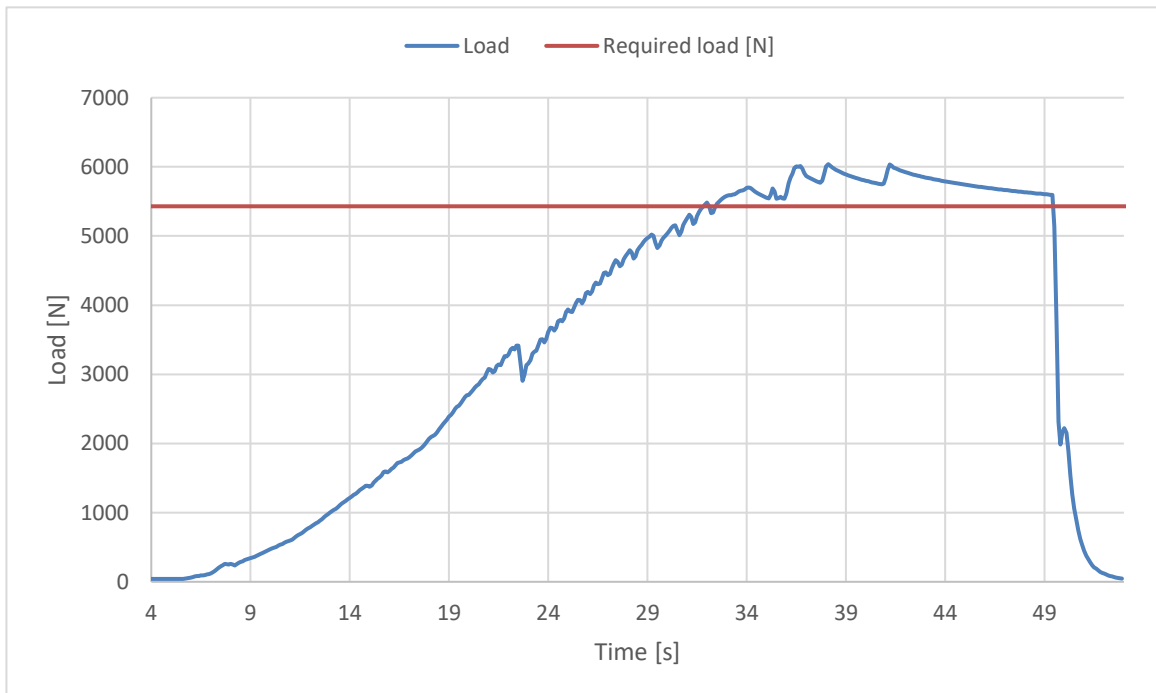
Inspection certificate number: **PH_260.2019**

model: **Altirando Lite L**

Harness Structural test

Test ID R10

| | | |
|---------------------------------|---|-----|
| Standard | EN 1651:1999 | 120 |
| Reference in standard | 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] | 17 | |
| Any signs of structural failure | No | |
| Test results | POSITIVE | |

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

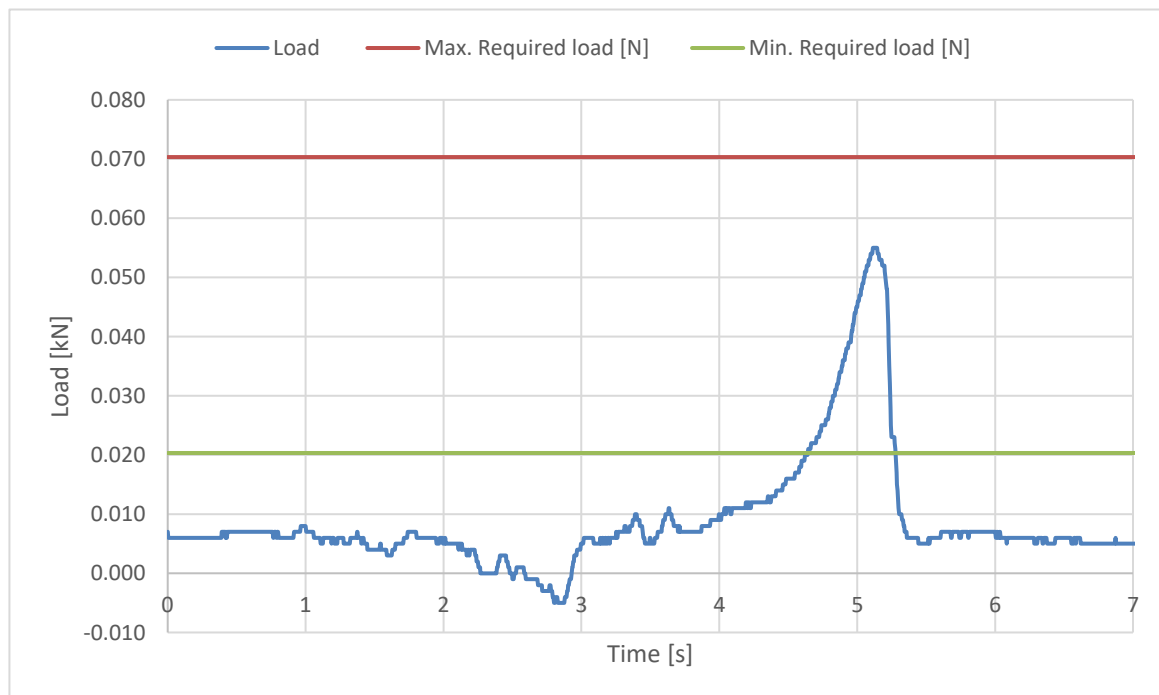
Inspection certificate number: **PH_260.2019**

model: **Altirando Lite L**

Rescue Deployment Test

Test ID RRDT

| | |
|---------------------------|--|
| Standard | LTF NfL II 91/09 |
| Reference in standard | 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] | 54.67 |
| Test results | POSITIVE |



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

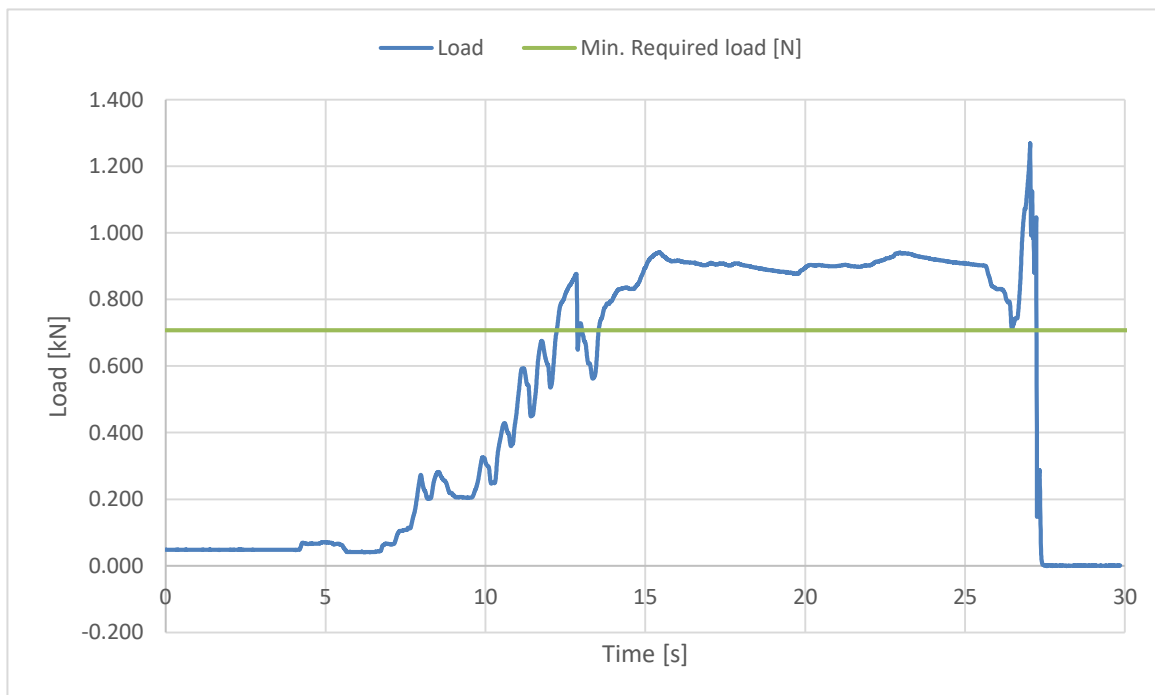
Inspection certificate number: **PH_260.2019**

model: **Altirando Lite L**

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]: | 13.6 |
| Breaking strength [N] | 1261.38 |
| Test results | POSITIVE |



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