

PH PARAGLIDER HARNESSSES

INSPECTION CERTIFICATE

Inspection certificate number: **PH_170.2016**

MANUFACTURER DATA

Manufacturer name: **Advance Thun AG**

Contact person: **Rolf Zeltner**

Street: **Uttigenstrasse 87**

Post code / place: **3600 Thun**

Country: **Switzerland**

SAMPLE DATA

Name: **Success 4**

Size: **M**

Type: **ABS**

Pilot max load [kg]: **120**

Impact pad type: **Soft foam protectors**

Weight [kg]: **3.9**

Serial number: **1135199**

Reception date: **19.05.2016**

Volume reserve parachute container [cm3] Min: **2500**

Max: **6500**

TEST DATA

ATMOSPHERE AGL

Date of test: **19.05.2016**

[C°] **23.5**

Place of test: **Villeneuve**

RH [%] **40**

Test responsible: **Alain Zoller**

[hPa] **1015.7**

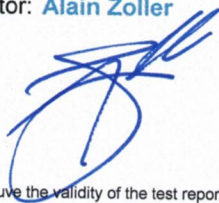
ISSUE DATA

Place of declaration: **Villeneuve**

Date of issue: **06.12.2016**

Managing Director: **Alain Zoller**

Signature:



This signature approves the validity of the test reports no: R0,R2,R4,R6,R8,R9,R10

Air Turquoise SA, having thoroughly assessed the sample mentioned hereunder, declare it was found conform with all requirements defined by the following norms

European Standard **EN1651** September 1999 | Test no: R0,R2,R4,R6,R8,R9,R10
Test recognized for the standard: Airworthiness Requirements LTF NFL 2009 in 91/09 chapter 4.2.1

European Standard **EN12491** September 2001 | Test no: RRD,RRST
Test recognized for the standard: Airworthiness Requirements LTF NFL 2009 in 91/09 chapter 6.1.5 and 6.1.8

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 report contain the following test and is complet with the test report:
71.9.1 | PH ID **R0,R2,R4,R6,R8,R9,R10, RRD,RRST**



Inspection certificate number: PH_170.2016

A. STRUCTURAL STRENGTH TESTS SUMMARY

A test plan was set up in order to execute the different tests in an efficient order. The table below summarizes this test plan together with the applicable standards and results

| Test ID | TESTED ? | Standard Ref. | TEST setup | Anchoring | | Forces | | Min. Test duration [sec] | Result |
|---------|----------|---------------|--------------------------------|--------------------------|------------------------|------------------------|----------------|--------------------------|----------|
| | | EN 1651:1999 | | Attach -ment points | Dummy | Req. Load in [g] force | Min. force [N] | | |
| R0 | ✓ | 5.3.2.1 | Default flying position | 2 main attachment points | Hip fixated | 6 | 6000 | 10 | POSITIVE |
| R2 | ✓ | 5.3.2.2 | | | | 15 | 15000 | 5 | POSITIVE |
| R4 | ✓ | 5.3.2.7 | Flying position before landing | Main risers attachments | landing conf. | 15 | 15000 | 5 | POSITIVE |
| R6 | ✓ | 5.3.2.4 | Rescue attachments | Rescue riser attachments | Hip fixed | 15 | 15000 | 5 | POSITIVE |
| R8 | ✓ | 5.3.2.3 | One riser | ONE main att. | 1 central hip fixation | 6 | 6000 | 10 | POSITIVE |
| R9 | | 5.3.2.5 | Towing | 2 main att. + 2 tow att. | None | 3 | 3000 | 10 | n/a |
| | | | | | | 5 | 5000 | | |
| R10 | ✓ | 5.3.2.6 | Default, Negatif | One main att. | Head fix. | 4.5 | 4500 | 10 | POSITIVE |

B. RESCUE DEPLOYMENT RESISTANCE TEST SUMMARY

The deployment of the rescue system has to be ensured in all circumstances of flight. This test is to verify whether the force needed to deploy is in between reasonable limits

| Test ID | TESTED ? | Standard Ref. | TEST setup | Anchoring | | Force for single hand deployment | | Result |
|---------|----------|---------------|-------------------------|--|-------|----------------------------------|-------------------------|----------|
| | | EN 12491:2001 | | Attachment points | Dummy | Min. | Resistance measured [N] | |
| | | | | | | Max. [N] | | |
| RRDT | ✓ | 6.1.5 | Default flying position | Test sample is attached to the dummy like a pilot in flight. | | 20 | 6.5 | POSITIVE |
| | | | | (no dummy required) | | 70 | | POSITIVE |

C. RESCUE DEPLOYMENT STRAP STRENGTH TEST SUMMARY

The connection between handgrip and inner container has to have sufficient load capacity/structural strength in any situation that may arise during normal use. During this test is verified, whether this connection fulfill the requirements

| Test ID | TESTED ? | Standard Ref. | TEST setup | Minimum force [N] | Min. | Breaking resistance measured [N] | Result |
|---------|----------|---------------|---|-------------------|-------------------|----------------------------------|----------|
| | | EN 12491:2001 | | | Test duration [s] | | |
| RRST | ✓ | 5.3.2 | Connection strap in tensile testing machine | 700 | 10 | 1030.0 | POSITIVE |

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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HARNES STRUCTURAL STRENGHT TEST

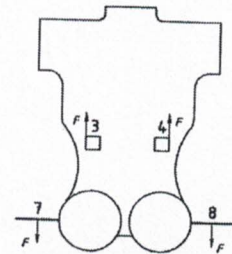
TEST REPORT PH ID 0

PH PARAGLIDER HARNESSSES

Inspection certificate number: **PH_170.2016**
 Manufacturer name: **Advance Thun AG**
 Name: **Success 4**
 Max load [kg] : **120**
 Serial number : **1135199**
 Test place & date: **Villeneuve, 19.05.2016**
 Test responsible: **Alain Zoller**
Directives: EN 1651:1999

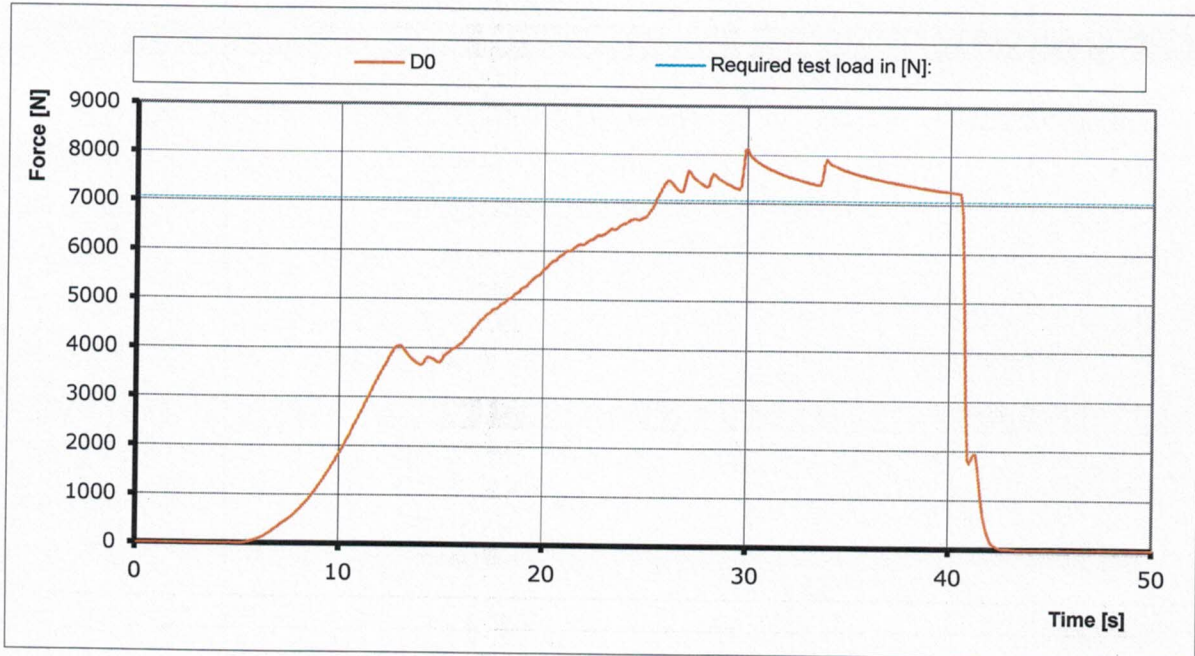
Test standard §: **5.3.2.1**
 Test setup: **Default flying position**
 Attachment points: **Both main riser attachments (3, 4)**
 Dummy: **Default, hip fixed (7, 8)**

Required load in force [g] : **6**
 Model max load [kg]: **120**
 Required test load in [N]: **7063**
 Min. duration test load [s]: **10**



Results

Duration of maintained min. load [s]: **14.97** [C°] **23.5**
 Any signs of structural failure after this test: **no failure** RH [%] **40**
 Test result: **POSITIVE** [hPa] **1015.7**
 Graph: **D0**



| Instruments | Validity calibration | Manufacturer | Type nr. | S/N |
|--------------------|----------------------|--------------|--------------|----------|
| Load sensor | 14.10.2017 | HBM | 1-S9M/50KN-1 | 31314652 |
| Geos n°11 Skywatch | 07.04.2017 | JDC | Geos n° 11 | 0022 |

The validation of this test report is given by the signature of the test manager on the Inspection Certificate no 71.9.1

HARNES STRUCTURAL STRENGHT TEST

TEST REPORT PH ID 2

PH PARAGLIDER HARNESSSES

Inspection certificate number: **PH_170.2016**
 Manufacturer name: **Advance Thun AG**
 Name: **Success 4**
 Max load [kg] : **120**
 Serial number : **1135199**
 Test place & date: **Villeneuve, 19.05.2016**
 Test responsible: **Alain Zoller**

Directives: EN 1651:1999

Test standard §: **5.3.2.2**

Test setup: **Default flying position**

Attachment points: **Both main riser attachments (3, 4)**

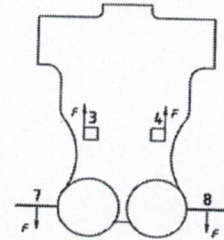
Dummy: **Default, hip fixed (7, 8)**

Required load in force [g] : **15**

Model max load [kg]: **120**

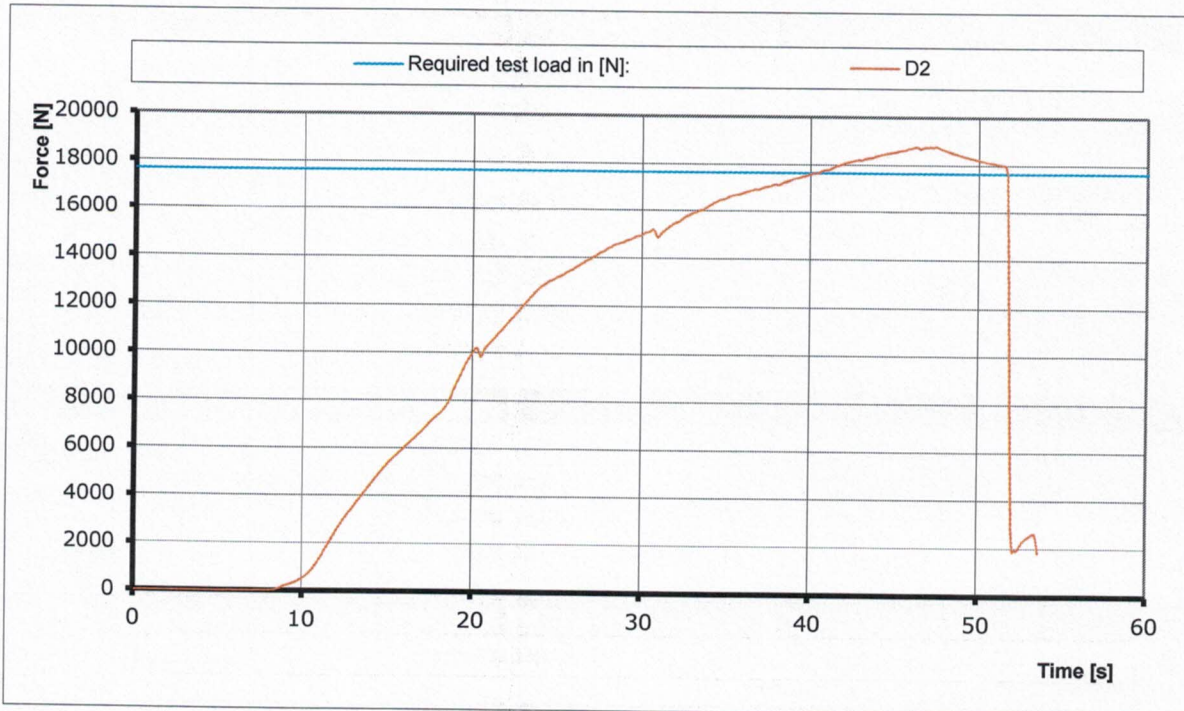
Required test load in [N]: **17658**

Min. duration [s]: **5**



Results

Duration of maintained min. load [s]: **10.97** [C°] **23.5**
 Any signs of structural failure after this test: **no failure** RH [%] **40**
 Test result: **POSITIVE** [hPa] **1015.7**
 Graph: **D2**



| Instruments | Validity calibration | Manufacturer | Type nr. | S/N |
|-------------------|----------------------|--------------|--------------|----------|
| Load sensor | 14.10.2017 | HBM | 1-S9M/50KN-1 | 31314652 |
| Geos n°11 Skywatc | 07.04.2017 | JDC | Geos n° 11 | 0022 |

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HARNES STRUCTURAL STRENGHT TEST

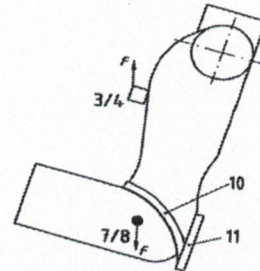
TEST REPORT PH ID 4

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_170.2016**
 Manufacturer name: **Advance Thun AG**
 Name: **Success 4**
 Max load [kg] : **120**
 Serial number : **1135199**
 Test place & date: **Villeneuve, 19.05.2016**
 Test responsible: **Alain Zoller**
 Directives: **EN 1651:1999**

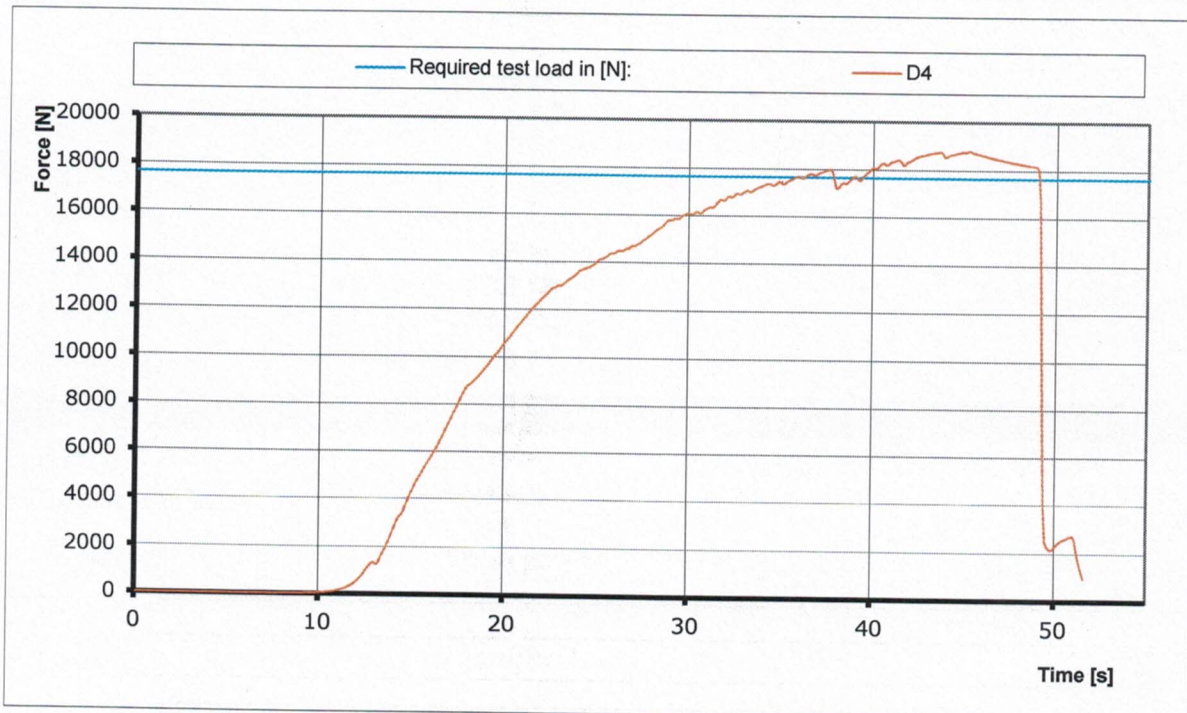
Test standard §: **EN 5.3.2.7**

Flying position before landing: **seat**
 Test setup: **board (11) in landing position, leg straps (10) closed.**
 Attachment points: **Both of the main riser attachments attached (3 and 4);**
 Dummy: **Default, hip fixed (7, 8)**
 Required load in force [g] : **15**
 Model max load [kg]: **120**
 Required test load in [N]: **17658**
 Min. duration [s]: **5**



Results

Duration of maintained min. load [s]: **9.51** [C°] **23.5**
 Any signs of structural failure after this test: **no failure** RH [%] **40**
 Test result: **POSITIVE** [hPa] **1015.7**
 Graph: **D4**



| Instruments | Validity calibration | Manufacturer | Type nr. | S/N |
|--------------------|----------------------|--------------|--------------|----------|
| Load sensor | 14.10.2017 | HBM | 1-S9M/50KN-1 | 31314652 |
| Geos n°11 Skywatch | 07.04.2017 | JDC | Geos n° 11 | 0022 |

The validation of this test report is given by the signature of the test manager on the Inspection Certificate no 71.9.1

HARNES STRUCTURAL STRENGHT TEST

TEST REPORT PH ID 6

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_170.2016**
 Manufacturer name: **Advance Thun AG**
 Name: **Success 4**
 Max load [kg] : **120**
 Serial number : **1135199**
 Test place & date: **Villeneuve, 27.06.2016**
 Test responsible: **Alain Zoller**
 Directives: **EN 1651:1999**

Test standard §: **5.3.2.4**

Test setup: **Rescue attachments**

Attachment points: **Rescue riser attachments (1,2)**

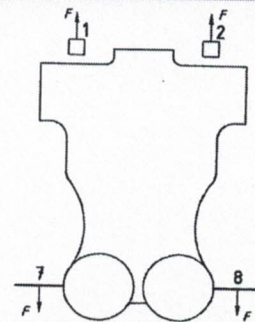
Dummy: **Hip fixed (7, 8)**

Required load in force [g] : **15**

Model max load [kg]: **120**

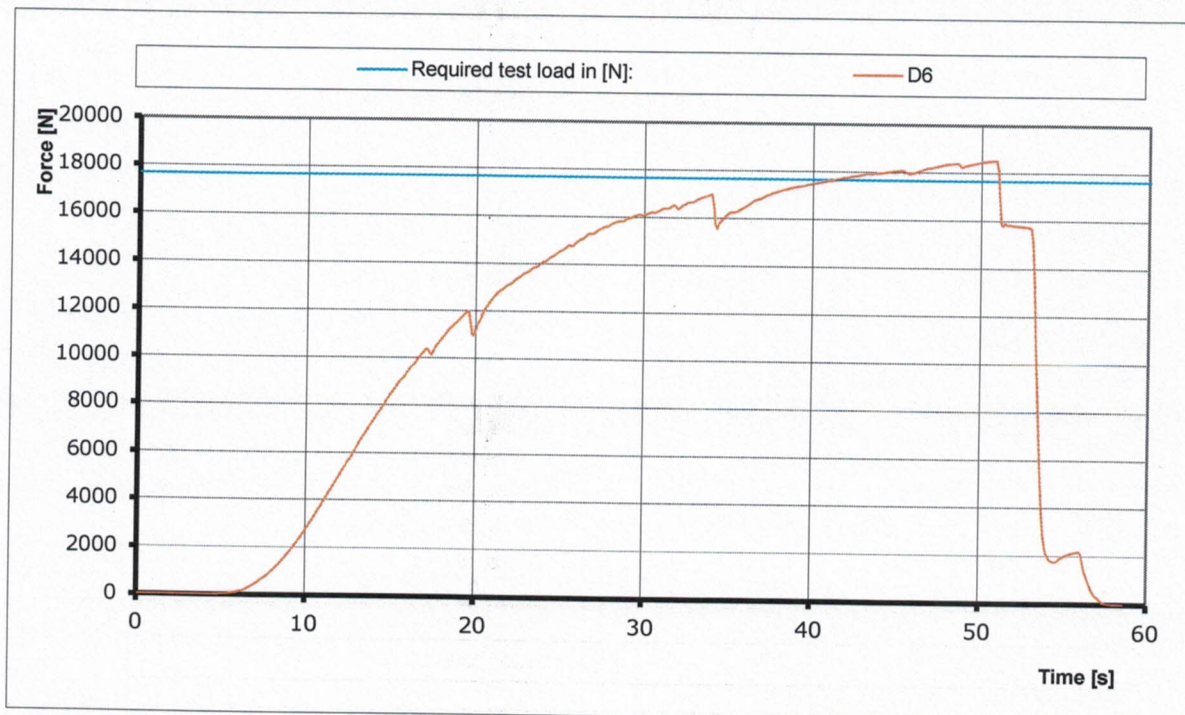
Required test load in [N]: **17658**

Min. duration [s]: **5**



Results

Duration of maintained min. load [s]: **9.36** [C°] **22.6**
 Any signs of structural failure after this test: **no failure** RH [%] **50**
 Test result: **POSITIVE** [hPa] **1022.6**
 Graph: **D6**



| Instruments | Validity calibration | Manufacturer | Type nr. | S/N |
|-------------------|----------------------|--------------|--------------|----------|
| Load sensor | 14.10.2017 | HBM | 1-S9M/50KN-1 | 31314652 |
| Geos n°11 Skywatc | 07.04.2017 | JDC | Geos n° 11 | 0022 |

The validation of this test report is given by the signature of the test manager on the Inspection Certificate no 71.9.1

HARNES STRUCTURAL STRENGHT TEST

TEST REPORT PH ID 8

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_170.2016**
 Manufacturer name: **Advance Thun AG**
 Name: **Success 4**
 Max load [kg] : **120**
 Serial number : **1135199**
 Test place & date: **Villeneuve, 19.05.2016**
 Test responsible: **Alain Zoller**
 Directives: **EN 1651:1999**
 Test standard §: **5.3.2.3**

Test setup: **Only one riser attached**

Attachment points: **One main riser attachments (3)**

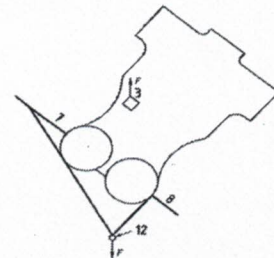
Dummy: **Hip fixed (7, 8 -> 12)**

Required load in force [g] : **6**

Model max load [kg]: **120**

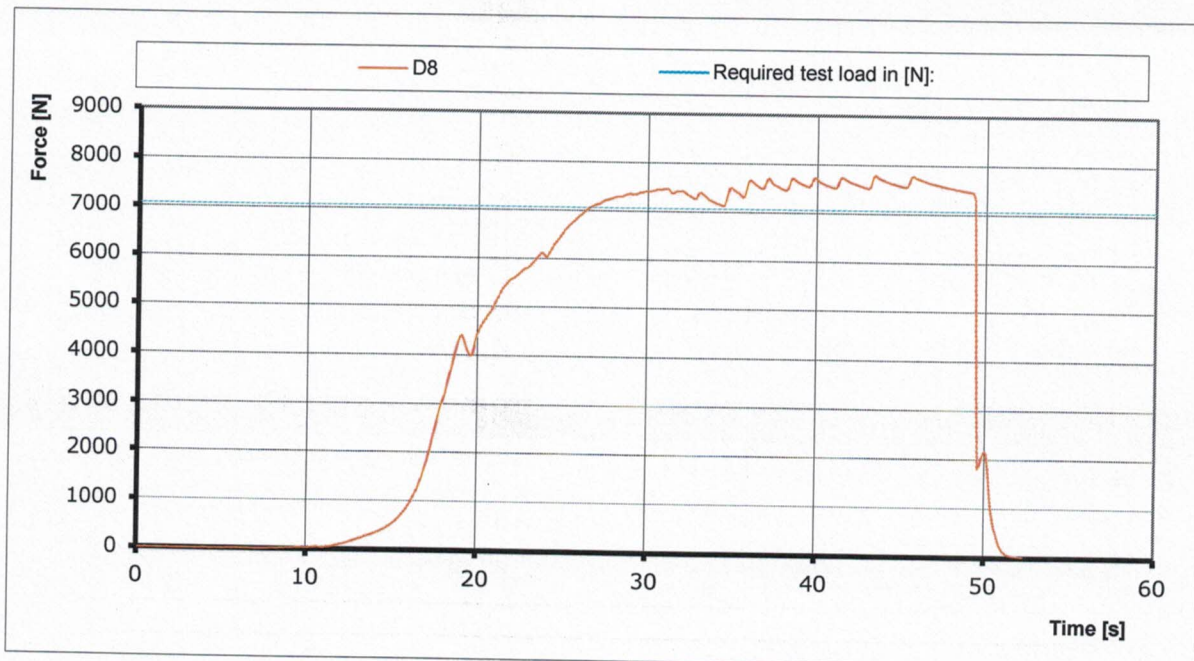
Required test load in [N]: **7063**

Min. duration [s]: **10**



Results

Duration of maintained min. load [s]: **22.61** [C°] **23.5**
 Any signs of structural failure after this test: **no failure** RH [%] **40**
 Test result: **POSITIVE** [hPa] **1015.7**
 Graph: **D8**



| Instruments | Validity calibration | Manufacturer | Type nr. | S/N |
|------------------|----------------------|--------------|--------------|----------|
| Load sensor | 14.10.2017 | HBM | 1-S9M/50KN-1 | 31314652 |
| Geos n°11 Skywac | 07.04.2017 | JDC | Geos n° 11 | 0022 |

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HARNES STRUCTURAL STRENGHT TEST

TEST REPORT PH ID 10

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_170.2016**
 Manufacturer name: **Advance Thun AG**
 Name: **Success 4**
 Max load [kg]: **120**
 Serial number: **1135199**
 Test place & date: **Villeneuve, 27.06.2016**
 Test responsible: **Alain Zoller**
Directives: EN 1651:1999

Test standard §: **5.3.2.6**

Test setup: **Normal flying position in NEGATIF**

Attachment points: **ONE of the main riser attachments attached downwards(3 or 4);**

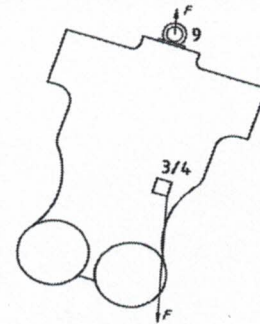
Dummy: **Dummy anchored at the head position (9)**

Required load in force [g]: **4.5**

Model max load [kg]: **120**

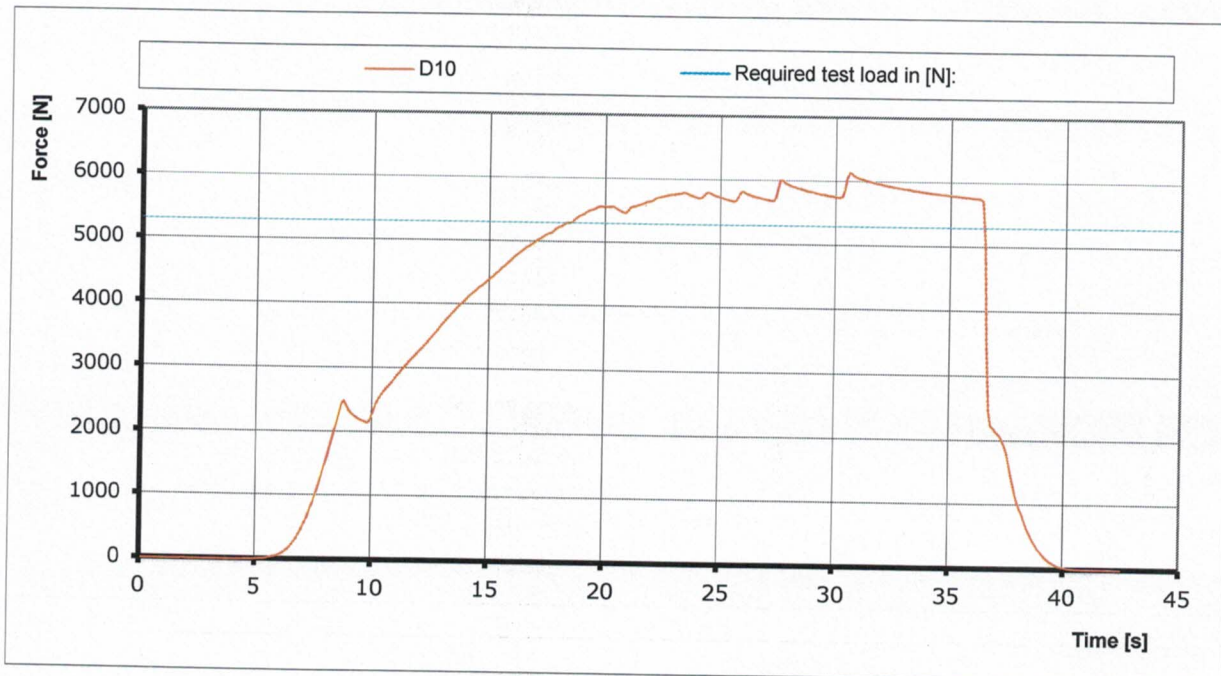
Required test load in [N]: **5297**

Min. duration [s]: **10**



Results

Duration of maintained min. load [s]: **17.83** [C°] **22.6**
 Any signs of structural failure after this test: **no failure** RH [%] **50**
 Test result: **POSITIVE** [hPa] **1022.6**
 Graph: **D10**



| Instruments | Validity calibration | Manufacturer | Type nr. | S/N |
|------------------|----------------------|--------------|--------------|----------|
| Load sensor | 14.10.2017 | HBM | 1-S9M/50KN-1 | 31314652 |
| Geos n°11 Skywac | 07.04.2017 | JDC | Geos n° 11 | 0022 |

The validation of this test report is given by the signature of the test manager on the Inspection Certificate no 71.9.1

HARNES STRUCTURAL STRENGHT TEST

TEST REPORT PH **RRDT**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_170.2016**

Manufacturer name: **Advance Thun AG**

Name: **Success 4**

Max load [kg] : **120**

Serial number : **1135199**

Test place & date: **Villeneuve, 25.10.2016**

Test responsible: **Alain Zoller**

Directives: Nfi II 91 / 09

Test standard §: 6.1.5

The deployment of the rescue system has to be ensured in all circumstances, especially with a damaged glider.

The pilot has to be able to deploy the rescue chute with a single pull out of the outer container, single handed and in an anatomical favorable direction.

In order to simulate this, the test responsible deploys the rescue seated in the harness. In a similar way as in real flight. The deployment resistance is approximately measured by the load cell, which is placed between the hand of the test responsible and the rescue hand grip.

On the other hand inadvertent deployment has to be fairly remote. Therefore a shear link has to withstand a minimum load.

Requirements [kN]: **0.07**

Min force to prevent unwanted opening [kN]: **0.02**

Measured peak to peak required force for deployment [kN]:

Test result 20 [N]: **POSITIVE**

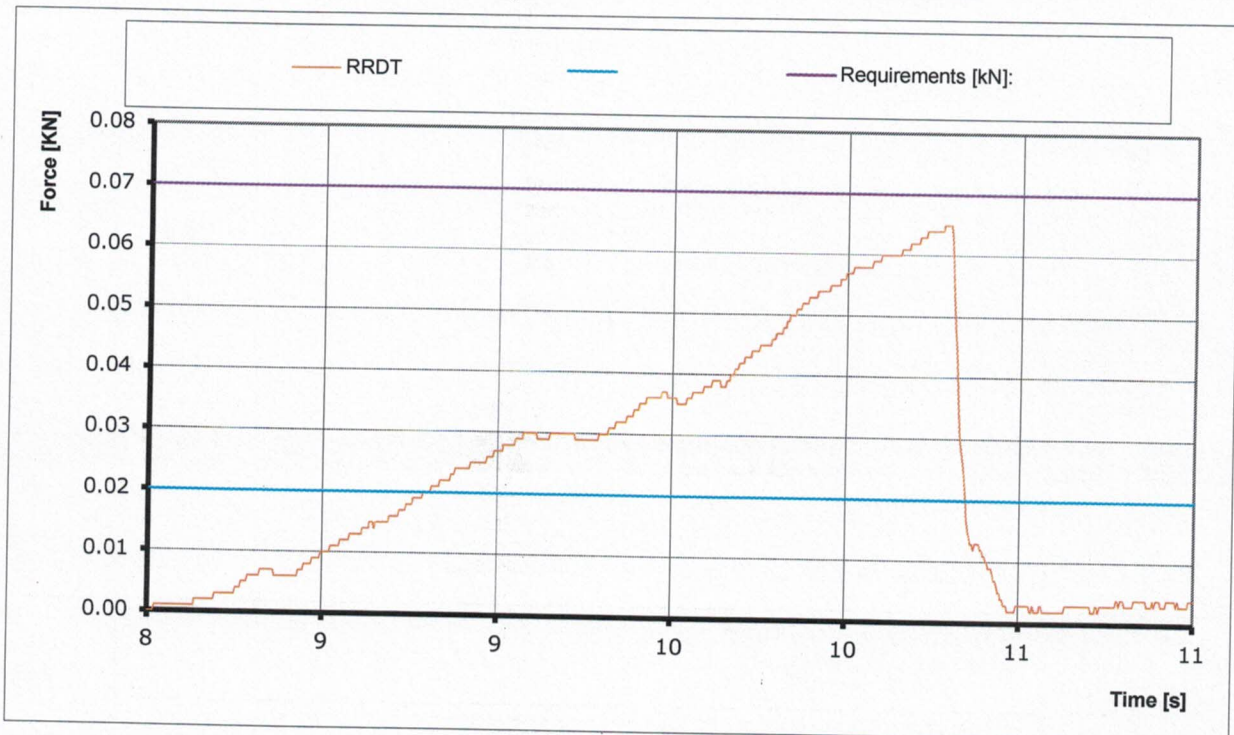
[C°] **22.4**

Test result 70 [N]: **POSITIVE**

RH [%] **45**

Graph: **RRDT**

[hPa] **1022**



| Instruments | Validity calibration | Manufacturer | Type nr. | S/N |
|--------------------|----------------------|---------------|--------------|------------|
| Load Cell (axial) | 01.08.2018 | Burster / MTS | 1-S9M/50KN-1 | 8431-10000 |
| Geos n°11 Skywatch | 07.04.2017 | JDC | Geos n° 11 | 0022 |

The validation of this test report is given by the signature of the test manager on the Inspection Certificate no 71.9.1

HARNES STRUCTURAL STRENGTH TEST

TEST REPORT PH **RRST**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_170.2016**

Manufacturer name: **Advance Thun AG**

Name: **Success 4**

Max load [kg] : **120**

Serial number : **1135199**

Test place & date: **Villeneuve, 08.11.2016**

Test responsible: **Alain Zoller**

Directives: EN 12491:2001 & Nfi II 91 / 09

Test standard §: 5.3.2 (EN) & 6.1.8 (LTF)

Test setup: The handgrip of the outer container has to be connected to the inner container with a removable loop in a way that it is possible to use the inner container with different types of outer containers.

The connection between handgrip and inner container has to have sufficient load capacity/structural strength in any situation that may arise during normal operation.

In order to verify this, the connection is tested on its tensile strength by a default tensile testing setup.

In addition to this the breaking resistance will also be measured.

Requirements[kN]: **0.7**

Requirements[s]: **10**

Results

Duration of maintained load [s]: **16.16**

[C°] **21.6**

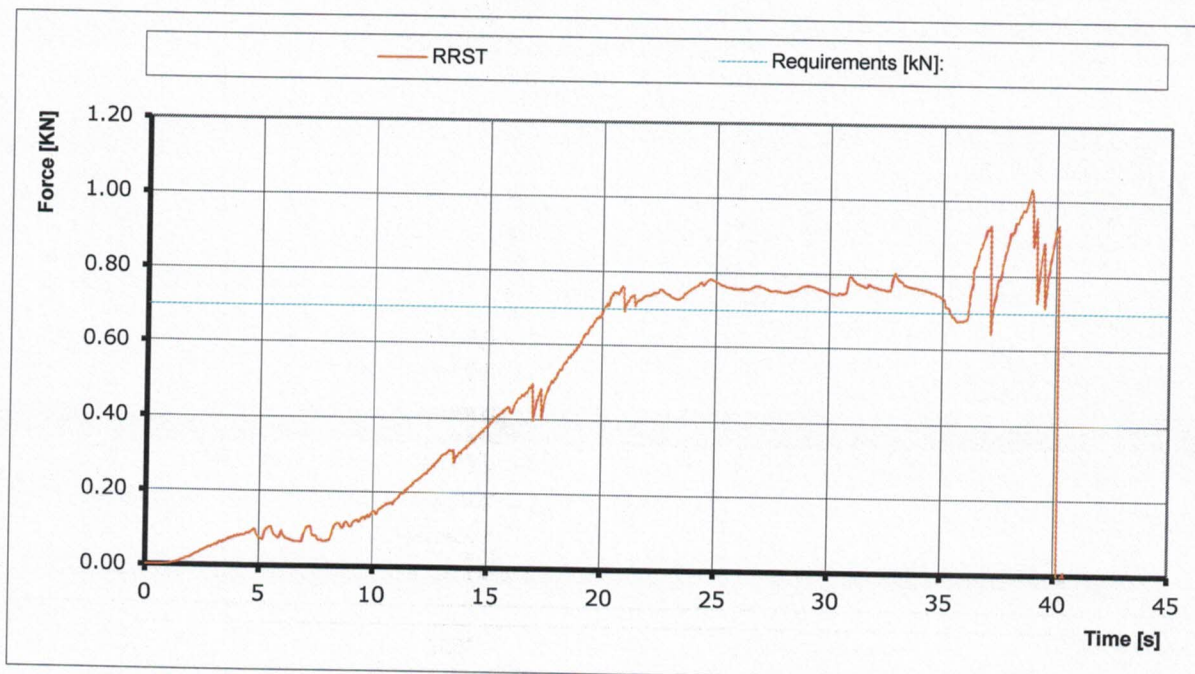
Calculated max value of breaking resistance [kN]: **1.03**

RH [%] **40**

Test result: **POSITIVE**

[hPa] **1011.7**

Graph: **RRST**



| Instruments | Validity calibration | Manufacturer | Type nr. | S/N |
|--------------------|----------------------|---------------|--------------|------------|
| Load Cell (axial) | 01.08.2018 | Burster / MTS | 1-S9M/50KN-1 | 8431-10000 |
| Geos n°11 Skywatch | 07.04.2017 | JDC | Geos n° 11 | 0022 |

The validation of this test report is given by the signature of the test manager on the Inspection Certificate no 71.9.1