

# INSPECTION REPORT

PH PARAGLIDERS HARNESS

Declaration conformity number: **PH 131.2015**

## TEST SAMPLE DATA

Manufacturer name: **Nova Vertriebsgesellschaft m.b.H.**

Contact person: **Manuel Fasser**

Street: **Auweg 14**

Post code / place: **6124 Terfens**

Country: **Austria**

Harness manufacturer name: **Montis + Inverto**

Harness manufacturer size: **na**

Serial number of the test sample: **NO-MI-003**

Harness type: **ABS**

Maximum certified pilot weight [kg]: **130**

Harness protector type: **Airbag**

Harness weight [kg]: **0.32**

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

Max: **na**

Atmosphere [°C] RH [%] [hPa]: **23.6 / 56 / 1025.6**

Test responsible: **Alain Zoller**

Inspection place: **10.06.2015**

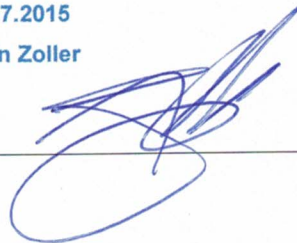
Sample reception date: **10.06.2015**

Place of declaration: **Villeneuve**

Date of issue: **10.07.2015**

Director management: **Alain Zoller**

Signature: \_\_\_\_\_



**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

European Standard **EN12491** September 2001

Airworthiness requirements for hang gliders and paragliders **LTF 2009** as published in NfL 91/09 chapter 4 and 6

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 **PH ID 0 to 12, ST and RD**



Declaration conformity number: PH 131.2015

### A. STRUCTURAL STRENGTH TESTS

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       | LTF            |                           | 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                       | POSITIV |
| R1      | ✓        |               | 4.2.1.a        |                           |                          |                        | 9                          | 9000           |                          | POSITIV |
| R2      | ✓        | 5.3.2.2       |                |                           |                          |                        | 15                         | 15000          | 5                        | POSITIV |
| R3      | ✓        |               | 4.2.1.b        | Default, landing position | 2 main att. points       | Hip fixated,           | 6                          | 6000           | 10                       | POSITIV |
| R4      | ✓        | 5.3.2.7       |                |                           |                          | landing conf.          | 15                         | 15000          | 5                        | POSITIV |
| R5      |          |               | 4.2.1.a rescue | Rescue                    | 2 rescue att. Pnts.      | Hip fixated            | 9                          | 9000           | 10                       | n/a     |
| R6      |          | 5.3.2.4       |                |                           |                          |                        | 15                         | 15000          | 5                        | n/a     |
| R7      |          |               | 4.2.1.b rescue |                           |                          | Rescue, landing        | Hip fixated, landing conf. | 6              | 6000                     | 10      |
| R8      | ✓        | 5.3.2.3       |                | One riser                 | ONE main att.            | 1 central hip fixation | 6                          | 6000           | 10                       | POSITIV |
| R9      |          |               | 4.2.1.d        | Towing                    | 2 main att. + 2 tow att. | None                   | 3                          | 3000           | 10                       | n/a     |
|         |          | 5.3.2.5       |                |                           |                          |                        | 5                          | 5000           |                          |         |
| R10     | ✓        | 5.3.2.6       |                | Default, Negatif          | One main att.            | Head fix.              | 4.5                        | 4500           | 10                       | POSITIV |
| R11     | ✓        |               | 4.2.1.c        | Upside down               | 2 main att. downw.       | Head fix.              | 6                          | 6000           | 10                       | POSITIV |
| R12     |          |               | 4.2.1.c rescue | Upside down rescue        | 2 rescue att. downw.     |                        | 6                          | 6000           | 10                       | n/a     |

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## B. PARAGLIDER HARNESS BACK PROTECTORS

Shock impact tests have to be executed on these harnesses in order to prove the damping characteristics of it. Most paraglider harnesses are equipped with a protection device that damps the shock on the pilot's spine during a hard landing

| Test ID          | TESTED ? | Standard | TEST setup              | Test configuration  | Impact at 165 cm (Seat plate) |   |   | Results |
|------------------|----------|----------|-------------------------|---|-------------------------------|---|---|---------|
|                  |          | LTF      |                         |   | Max Peak impact [g] force     | Impact duration at 38 [g] (if any) recorded: [ms] | Impact duration at 20 [g] (if any) recorded: [ms] |         |
| PRO<br>TECT<br>1 | ✓        | 5.1.1    | Default flying position | Test sample is attached to the dummy like a pilot in flight. Sample temperature +20+25°C without rescue | 26.59                         | 0.00  | 18.12   | POSITIV |
| PRO<br>TECT<br>2 | ✓        | 5.1.1    | Default flying position | Test sample is attached to the dummy like a pilot in flight. Sample temperature +20+25°C with rescue    | 25.42                         | 0.00  | 14.87   | POSITIV |
| PRO<br>TECT<br>3 | ✓        | 5.1.1    | Default flying position | Test sample is attached to the dummy like a pilot in flight. Sample temperature -10+5°C without rescue  | 0.00                          | 0.00  | 0.00  | n/a     |
| PRO<br>TECT<br>4 | ✓        | 5.1.1    | Default flying position | Test sample is attached to the dummy like a pilot in flight. Sample temperature -10+5°C with rescue     | 0.00                          | 0.00  | 0.00  | n/a     |

## C. RESCUE DEPLOYMENT RESISTANCE TEST

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 |
|---------|----------|---------------|-------------------------|--|-------|----------------------------------|-------------------------|--------|
|         |          | LTF           |                         | Attach-<br>ment points                                       | Dummy | Min.                             | Resistance measured [N] |        |
|         |          |               |                         |  |       | Max.<br>[N]                      |                         |        |
| RRDT    |          | 6.1.5         | Default flying position | Test sample is attached to the dummy like a pilot in flight. | 20    | -17.0                            | n/a                     |        |
|         |          |               |                         | (no dummy required)  | 70    |                                  | n/a                     |        |

## D. RESCUE DEPLOYMENT STRAP STRENGTH TEST

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 |
|---------|----------|---------------|----------|---|-------------------|-------------------|----------------------------------|--------|
|         |          | LTF           | EN 12491 |   |                   | Test duration [s] |                                  |        |
| RRST    |          | 6.1.8         | 5.3.2    | Connection strap in tensile testing machine | 700               | 10                | -17.0                            | n/a    |

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**HARNESS STRUCTURAL STRENGTH TEST**

TEST REPORT PH **ID 1**

PH PARAGLIDERS HARNESS

PH 131.2015

Manufacturer name: **Nova Vertriebsgesellschaft m.b.H.**  
 Harness manufacturer name: **Montis + Inverto**  
 Test place & date: **42165**  
 Test responsible: **Alain Zoller**  
 Atmosphere [°C] RH [%] [hPa]: **23.6 / 56 / 1025.6**  
 Maximum certified pilot weight [kg]: **130**  
 Serial number of the test sample: **NO-MI-003**

**Directives:** NfL II 91 / 09

Test standard §: **4.2.1 a (LTF DV)**

Test setup: **Default flying position**

Anchoring:

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

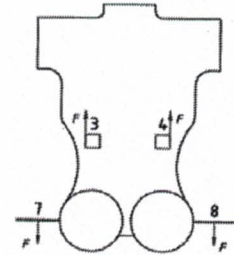
Dummy: **Default, hip fixed (7, 8)**

Required load in force [g] : **9**

Minimum load [N]: **9000**

Required test load in [N]: **1193**

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



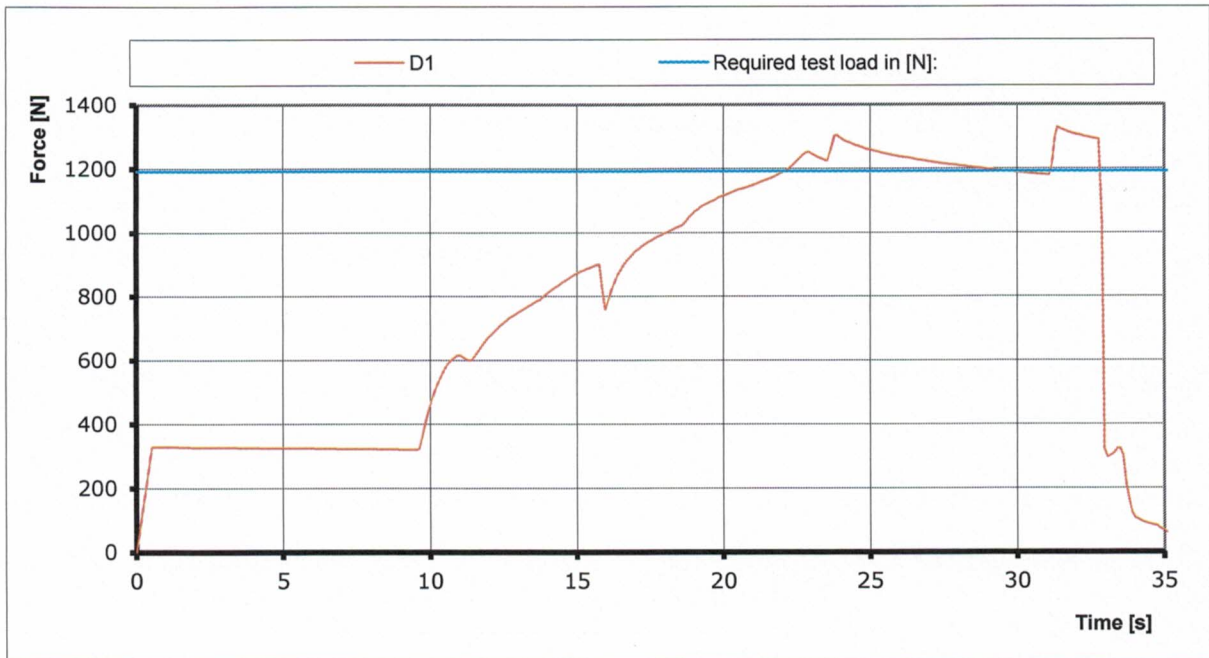
**Results**

Duration of maintained min. load [s]: **10.02**

Any signs of structural failure after this test: **no failure**

Test result: **POSITIV**

Graph: **D1**



| Instruments        | Validity   | Manufacturer    | Type nr.   | S/N  |
|--------------------|------------|-----------------|------------|------|
| Load sensor        | 2017       | 0               | 0          | 0    |
| Geos n°11 Skywatch | 07.04.2017 | JDC electronics | Geos n° 11 | 0022 |

## HARNESS STRUCTURAL STRENGTH TEST

TEST REPORT PH ID 2

PH PARAGLIDERS HARNESS

PH 131.2015

Manufacturer name: **Nova Vertriebsgesellschaft m.b.H.**

Harness manufacturer name: **Montis + Inverto**

Test place & date: **42165**

Test responsible: **Alain Zoller**

Atmosphere [°C] RH [%] [hPa]: **23.6 / 56 / 1025.6**

Maximum certified pilot weight [kg]: **100**

Serial number of the test sample: **NO-MI-003**

Directives: EN 1651

Test standard §: **5.3.2.2**

Test setup: **Default flying position**

Anchoring:

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

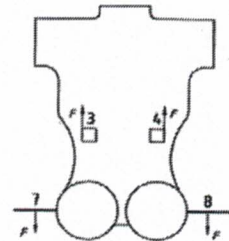
Dummy: **Default, hip fixed (7, 8)**

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

Min load [N]: **15 000**

Required test load in [N]: **1529**

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



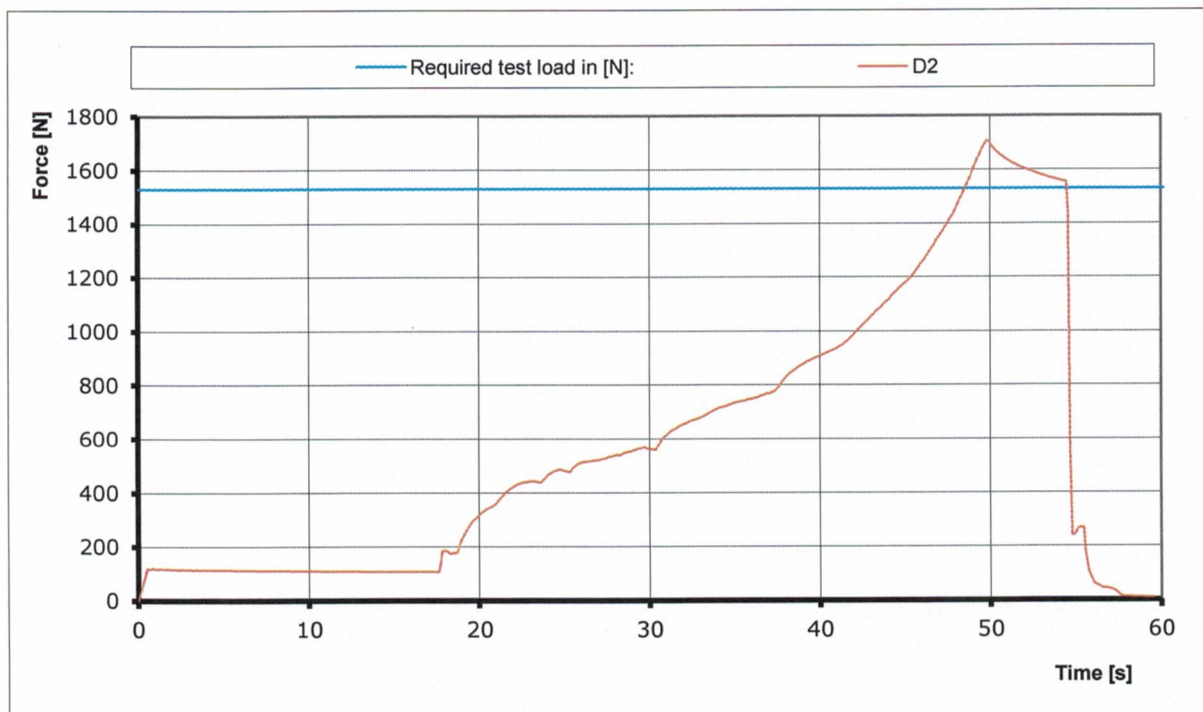
### Results

Duration of maintained min. load [s]: **5.02**

Any signs of structural failure after this test: **no failure**

Test result: **POSITIV**

Graph: **D2**



| Instruments        | Validity   | Manufacturer    | Type nr.   | S/N  |
|--------------------|------------|-----------------|------------|------|
| Load sensor        | 2017       | 0               | 0          | 0    |
| Geos n°11 Skywatch | 07.04.2017 | JDC electronics | Geos n° 11 | 0022 |

## HARNESS STRUCTURAL STRENGTH TEST

TEST REPORT PH ID 3

PH PARAGLIDERS HARNESS

PH 131.2015

Manufacturer name: **Nova Vertriebsgesellschaft m.b.H.**

Harness manufacturer name: **Montis + Inverto**

Test place & date: **42165**

Test responsible: **Alain Zoller**

Atmosphere [°C] RH [%] [hPa]: **23.6 / 56 / 1025.6**

Maximum certified pilot weight [kg]: **130**

Serial number of the test sample: **NO-MI-003**

Directives: NfL II 91 / 09

Test standard §: **4.2.1.b**

Test setup: **Flying position before landing: seat board (11) in landing position, leg straps (10) closed.**

Attachment points: **Both of the main riser attachments attached (3 and 4);**

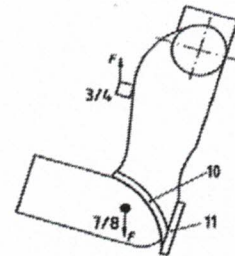
Dummy: **Default, hip fixed (7, 8)**

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

Min load [N]: **6000**

Required test load in [N]: **795**

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



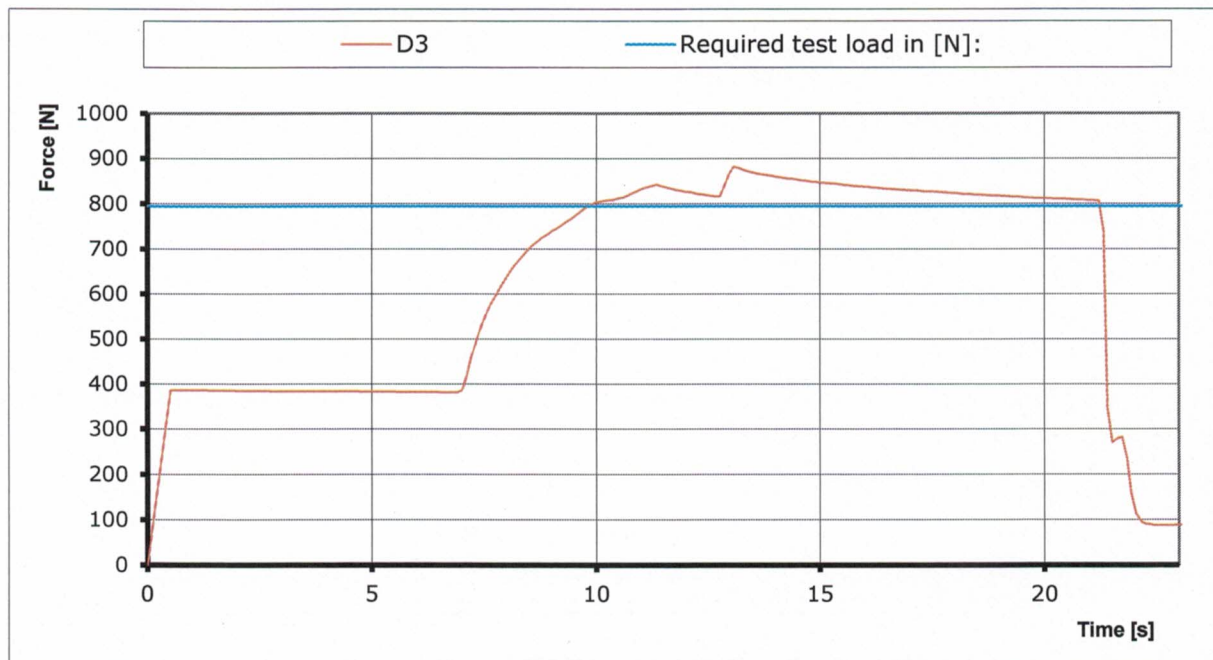
### Results

Duration of maintained min. load [s]: **12.14**

Any signs of structural failure after this test: **no failure**

Test result: **POSITIV**

Graph: **D3**



| Instruments        | Validity   | Manufacturer    | Type nr.   | S/N  |
|--------------------|------------|-----------------|------------|------|
| Load sensor        | 2017       | 0               | 0          | 0    |
| Geos n°11 Skywatch | 07.04.2017 | JDC electronics | Geos n° 11 | 0022 |

**HARNESS STRUCTURAL STRENGTH TEST**

TEST REPORT PH ID 4

PH PARAGLIDERS HARNESS

PH 131.2015

Manufacturer name: **Nova Vertriebsgesellschaft m.b.H.**  
 Harness manufacturer name: **Montis + Inverto**  
 Test place & date: **42165**  
 Test responsible: **Alain Zoller**  
 Atmosphere [°C] RH [%] [hPa]: **23.6 / 56 / 1025.6**  
 Maximum certified pilot weight [kg]: **100**  
 Serial number of the test sample: **NO-MI-003**

Directives: EN 1651

Test standard §: EN 5.3.2.7

Flying position before landing: seat  
 Test setup: board (11) in landing position, leg  
 straps (10) closed.

Anchoring:

Attachment points: Both of the main riser attachments  
 attached (3 and 4);

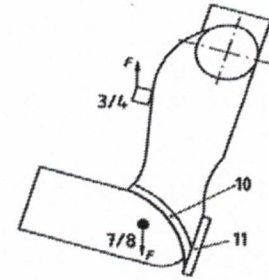
Dummy: Default, hip fixed (7, 8)

Required load in force [g] : 15

Min load [N]: 15000

Required test load in [N]: 1529

Min. duration [s]: 5



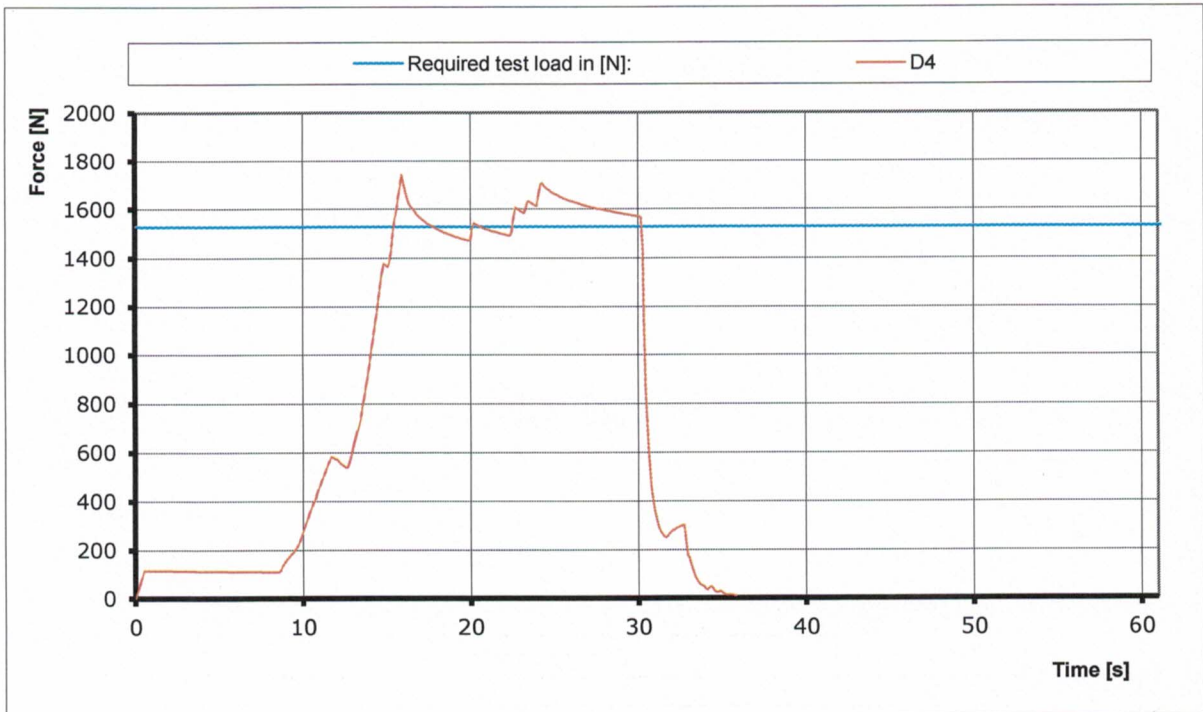
**Results**

Duration of maintained min. load [s]: **5.14**

Any signs of structural failure after this test: **no failure**

Test result: **POSITIV**

Graph: **D4**



|                    |            |                 |            |      |
|--------------------|------------|-----------------|------------|------|
| Load sensor        | 2017       | 0               | 0          | 0    |
| Geos n°11 Skywatch | 42832      | JDC electronics | Geos n° 11 | 0022 |
| 0                  | 00.01.1900 | 0               | 0          | 0    |

**HARNESS STRUCTURAL STRENGTH TEST**

TEST REPORT PH ID 8

PH PARAGLIDERS HARNESS

PH 131.2015

Manufacturer name: **Nova Vertriebsgesellschaft m.b.H.**  
 Harness manufacturer name: **Montis + Inverto**  
 Test place & date: **42165**  
 Test responsible: **Alain Zoller**  
 Atmosphere [°C] RH [%] [hPa]: **23.6 / 56 / 1025.6**  
 Maximum certified pilot weight [kg]: **100**  
 Serial number of the test sample: **NO-MI-003**

Directives: EN 1651

Test standard §: 5.3.2.3

Test setup: **Only one riser attached**

Anchoring:

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

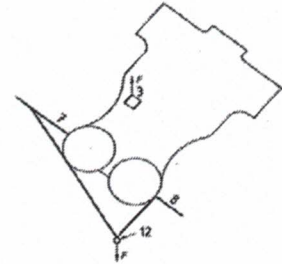
Dummy: **Hip fixed (7, 8 -> 12)**

Required load in force [g] : 6

Min load [N]: **6000**

Required test load in [N]: **612**

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



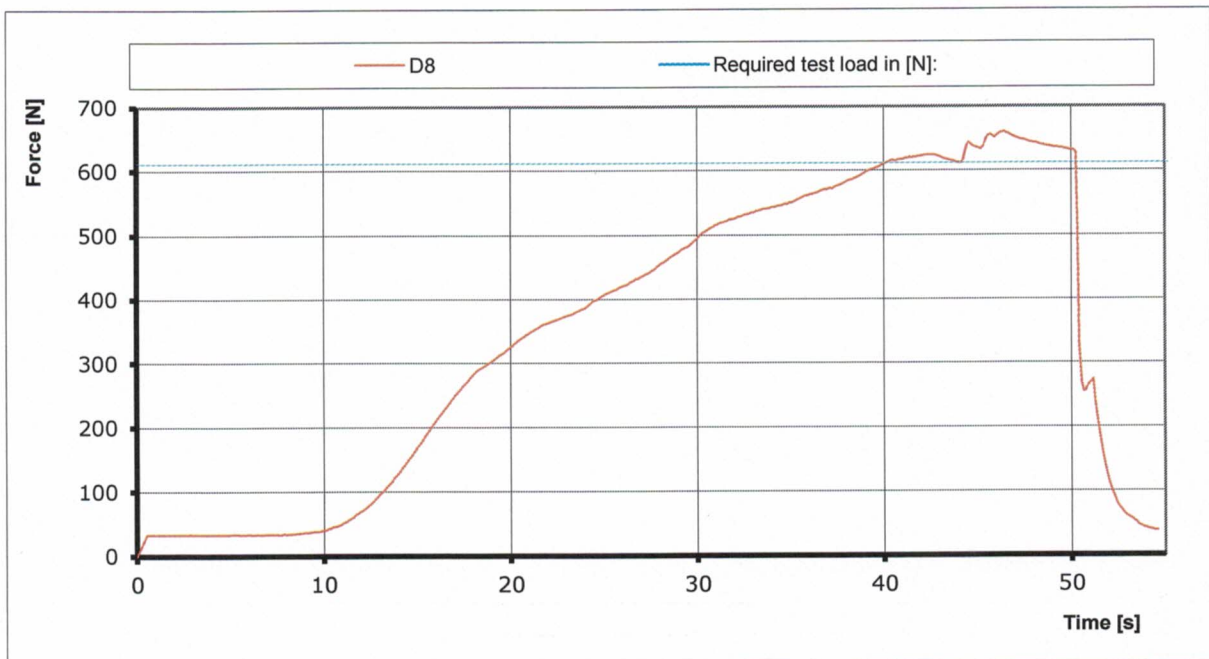
**Results**

Duration of maintained min. load [s]: **10.32**

Any signs of structural failure after this test: **no failure**

Test result: **POSITIV**

Graph: **D8**



|                    |            |                 |            |      |
|--------------------|------------|-----------------|------------|------|
| Load sensor        | 2017       | 0               | 0          | 0    |
| Geos n°11 Skywatch | 42832      | JDC electronics | Geos n° 11 | 0022 |
| 0                  | 00.01.1900 | 0               | 0          | 0    |



## HARNESS STRUCTURAL STRENGTH TEST

TEST REPORT PH ID 10

PH PARAGLIDERS HARNESS

PH 131.2015

Manufacturer name: **Nova Vertriebsgesellschaft m.b.H.**

Harness manufacturer name: **Montis + Inverto**

Test place & date: **42165**

Test responsible: **Alain Zoller**

Atmosphere [°C] RH [%] [hPa]: **23.6 / 56 / 1025.6**

Maximum certified pilot weight [kg]: **100**

Serial number of the test sample: **NO-MI-003**

Directives: EN 1651

Test standard §: **5.3.2.6**

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

Anchoring:

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

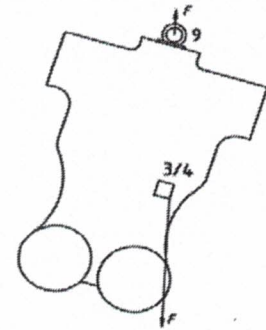
Dummy: **Dummy anchored at the head position (9)**

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

Min load [N]: **4500**

Required test load in [N]: **459**

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



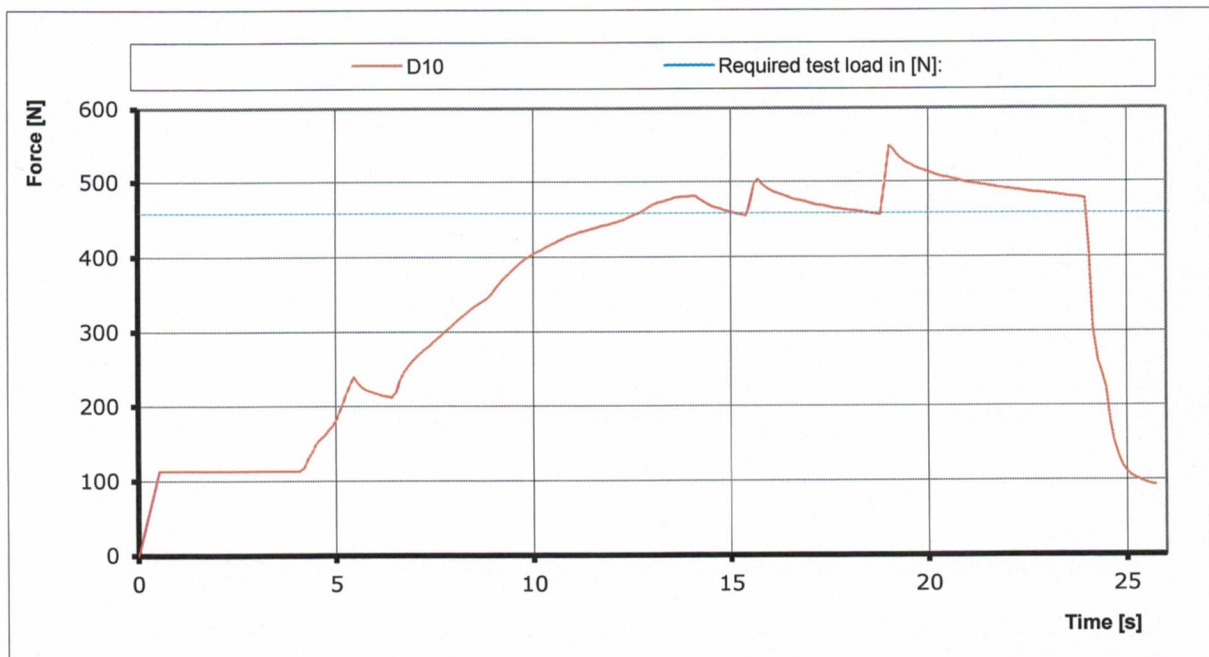
### Results

Duration of maintained min. load [s]: **10.09**

Any signs of structural failure after this test: **no failure**

Test result: **POSITIV**

Graph: **D10**



| Instruments        | Validity   | Manufacturer    | Type nr.   | S/N  |
|--------------------|------------|-----------------|------------|------|
| Load sensor        | 2017       | 0               | 0          | 0    |
| Geos n°11 Skywatch | 07.04.2017 | JDC electronics | Geos n° 11 | 0022 |

**HARNES STRUCTURAL STRENGHT TEST**

TEST REPORT PH ID 11

PH PARAGLIDERS HARNES

PH 131.2015

Manufacturer name: **Nova Vertriebsgesellschaft m.b.H.**  
 Harness manufacturer name: **Montis + Inverto**  
 Test place & date: **42165**  
 Test responsible: **Alain Zoller**  
 Atmosphere [°C] RH [%] [hPa]: **23.6 / 56 / 1025.6**  
 Maximum certified pilot weight [kg]: **130**  
 Serial number of the test sample: **NO-MI-003**

Directives: NfL II 91 / 09

Test standard §: **4.2.1.c**

Test setup: **Pilot upside down flying position**

Anchoring:

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

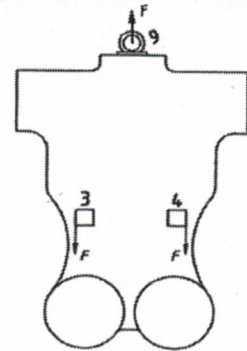
Dummy: **Dummy anchored at the head position (9)**

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

Min load [N]: **6000**

Required test load in [N]: **795**

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



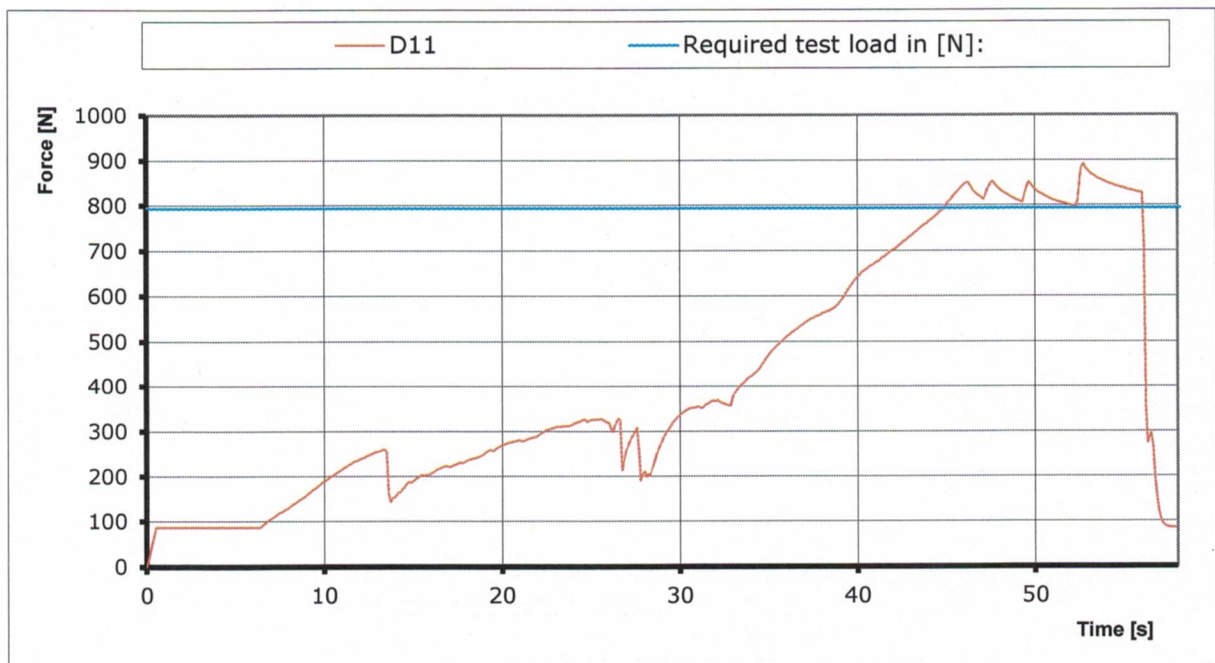
**Results**

Duration of maintained min. load [s]: **10.84**

Any signs of structural failure after this test: **no failure**

Test result: **POSITIV**

Graph: **D11**



| Instruments        | Validity   | Manufacturer    | Type nr.   | S/N  |
|--------------------|------------|-----------------|------------|------|
| Load sensor        | 2017       | 0               | 0          | 0    |
| Geos n°11 Skywatch | 07.04.2017 | JDC electronics | Geos n° 11 | 0022 |