



# REPORT FLIGHT AND STRUCTURE TEST RESCUE

EN 12491 | 2001 | NfL II 91/09

**Manufacturer** VITAL PARACHUTE INC.  
**Address** 4th floor, Samjin bldg.  
 596 Cheonho-daero, Gwnagjin  
 Seoul 143-848 / Korea Republic

**Certification number:** EP 121.2015  
**Type/model:** Cires 110  
**Total weight in flight:** 110 kg  
**Serial number STRENGTH** VPR-CRM140009  
**Serial number FLIGHT** VPR-CRM140008

## Measurement of Flight test rescue (5kg Tension)

|                  |         |
|------------------|---------|
| Center Line   mm | 6085 cm |
| Main Line 1   mm | 5301 cm |
| Main Line 2   mm |         |
| Number of cell:  | 16      |
| Tolerance   mm   | 25 mm   |
| Weight   grame   | 1739    |

| TESTS  | place:     | date:  | result:   |
|--|------------|--|---|
| <b>1. Deployment system strength test</b><br>A load of 700 N between each components   | Villeneuve | 17.02.2015   | OK  |
| <b>2. Speed of opening test - ref. A (2 times)</b><br>Time from the instant of free drop until a load of 200 N is sustained<br>Opening time<br>Opening time  | Villeneuve | 05.01.2015<br>05.01.2015                             | 4.86 sec<br>3.32 sec                                    |
| <b>3. Descent rate and stability test - ref. A and B (2 times)</b><br>The paraglider is released as the parachute begins to open, minimum 100 m descent.<br>Stability 1<br>Sink rate 1<br>Stability 2<br>Sink rate 2   | Villeneuve | 05.01.2015<br>05.01.2015<br>05.01.2015<br>05.01.2015 | Stable<br>4.96 m/sec<br>Stable<br>5.06 m/sec            |
| <b>4. Strength test 40 m/s opening shock (2 times)</b><br>The drop test device is accelerated to a straight line velocity of 40 m/s. Speed of opening is less than 5 seconds and shock not exceeded 15g<br>Test 1<br>Test 2<br>Test 3  | Illarsaz   | 06.02.2015<br>06.02.2015<br>06.02.2015               | OK<br>OK<br>OK  |
| <b>5. Interaction and stability test (piloted) - ref. C</b><br>a the emergency parachute is deployed from a paraglider in normal straight flight.<br>b the pilot shall take no action while the behaviour of the parachute and paraglider are observed 200 metres.<br>c the pilot take action while the behaviour of the parachute and paraglider are observed 200 metres. |            |  | not available<br><br>not available<br><br>not available |
| <b>6. Connecting strap</b><br>Mininum load capacity of 2400 daN  |            |  |   |

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## Weather data, ref. 3 and B

| Date / place                 | hPa | wind             | tem | humidity |
|------------------------------|-----|------------------|-----|----------|
| Villeneuve, January 05, 2015 | 968 | 0                | 1   | 79.0%    |
| <i>Corrected mass:</i>       |     | <b>110.45 kg</b> |     |          |
| Villeneuve, January 05, 2015 | 972 | 0                | 5   | 71.0%    |
| <i>Corrected mass:</i>       |     | <b>109.51 kg</b> |     |          |

## Reference

A. At horizontal airspeed 8 m/s and vertical speed 1.5 m/s

B. Formula to be used for correcting the test mass ofr differences from ICAO standard atmosphere

$$m_{corr} := m_{dec} \cdot \frac{p \cdot T_0}{p_0 \cdot T}$$

Ground level atmospheric pressure at the test location: (p)

ICAO standard atmospheric pressure at MSL: (p<sub>0</sub>)

Ground level température at the test location: (T)

ICAO standard temperature at MSL: (T<sub>0</sub>)

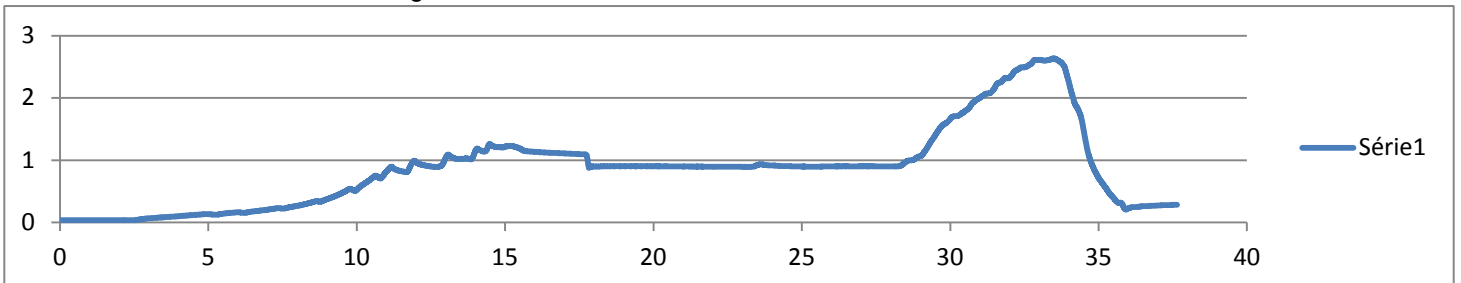
Total weight in flight: (m<sub>dec</sub>)

Corrected mass: (m<sub>corr</sub>)

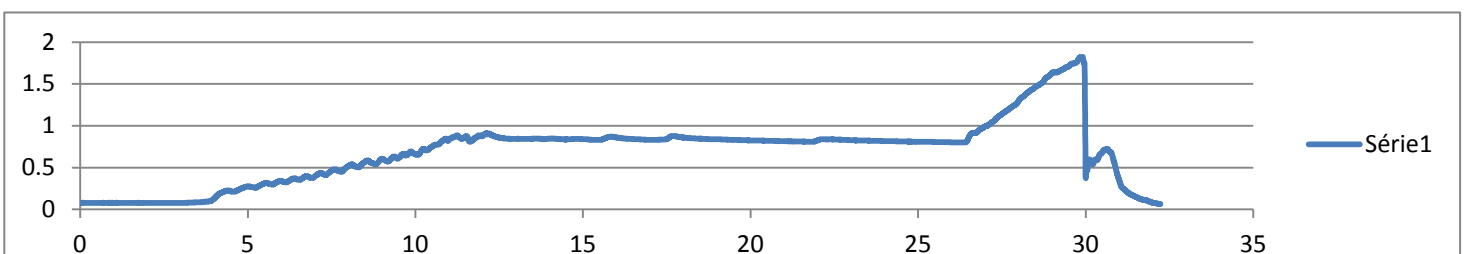
C. Only parachute with controls for steering and landing flare

GRAPHIQUE concerning Nfl II 91/09 "§ 6.1.8 inner container"

Max load attachement 1 = 263.9 kg



Max load attachement 2 = 182.4 kg





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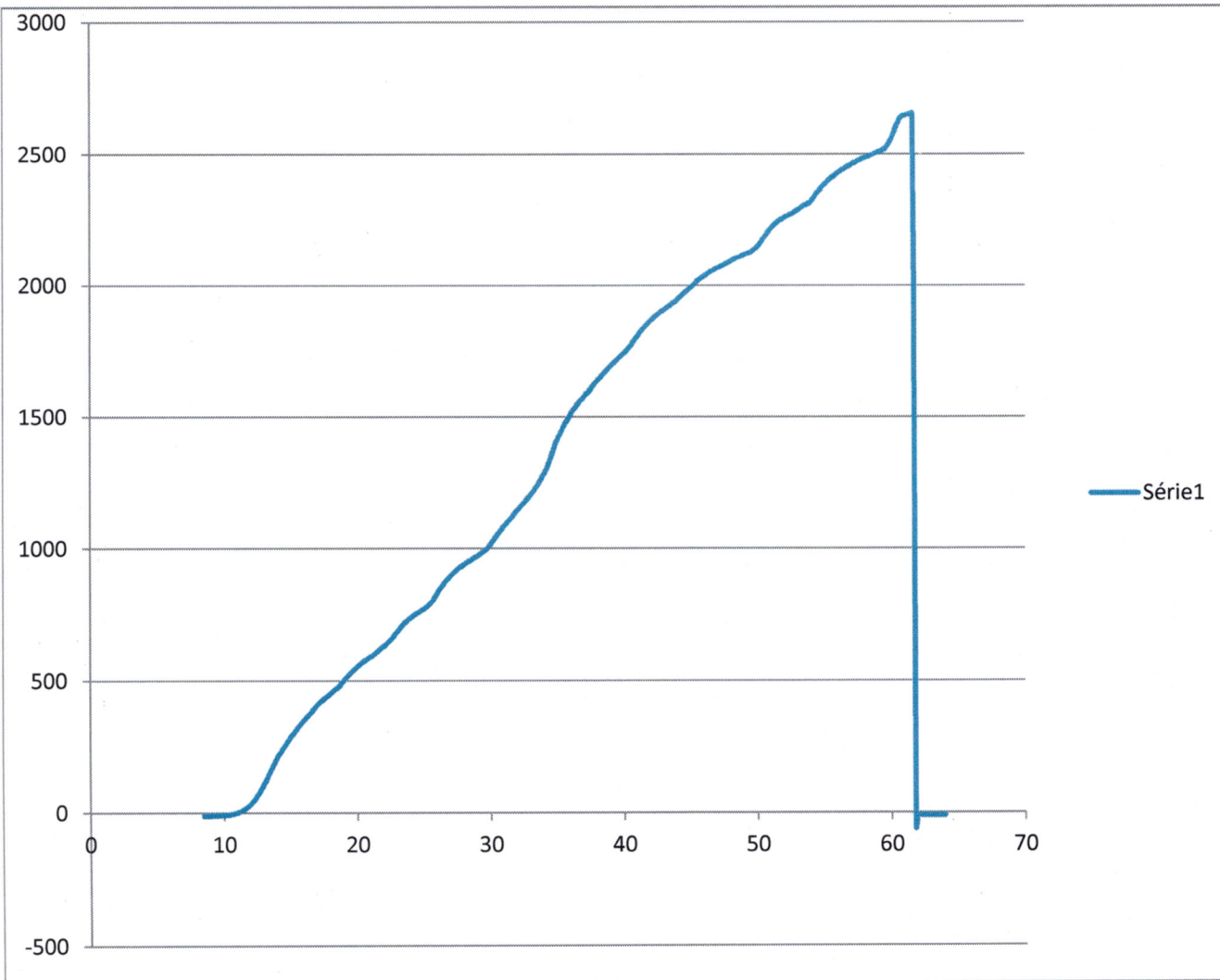
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Cires 110

GRAPHIQUE concerning Nfl II 91/09 "§ 6.1.4 connecting strap"  
Max load = 2656,1 kg



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For Air Turquoise SA

Alain Zoller

Villeneuve, 17.02.2015