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

paragliding by air turquoise

# Paragliders Shock- and sustained loading test

Inspection certificat number: **PG_1095.2016** **Test Report**

## Manufacturer data

| | |
|---|---|
| Manufacturer name: | **Apco Aviation Ltd** |
| Representative: | **Adam Wechsler** |
| Street: | **7, Chalamish St. Industrial park** |
| Post code / place: | **3088900 Caesarea** |
| Country: | **Israel** |

## Sample data

| | |
|---|---|
| Name: | **Karisma** |
| Size: | **L** |
| Maximum weight in flight [kg]: | **120** |
| Serial number: | **398804** |
| Date of reception: | **22.03.2017** |

## Test data

| | | Test Atmosphere AGL | |
|---|---|---|---|
| Place of test: | **Payerne (airport)** | **4.3** | [°C] |
| Date of test: | **08.04.2017** | **76** | RH [%] |
| Inspector: | **Alain Zoller** | **965.4** | [hPA] |
| | | **0.1** | Wind [m/s] |

## Shock loading test result (1)

| | | | |
|---|---|---|---|
| Weak link used [daN]: | **1000** | | |
| Visual inspection: | **No visible damage** | Results: | **POSITIVE** |
| Uncertainty k=2 [%] (2) | **10** | | |

## Weak link


| Instruments | Validity | Manufacturer | s/n |
|---|---|---|---|
| Weak link | 2020 | Tost | n/a |
| Cable | 2020 | Rotex | n/a |
| Geos n° 11 Skywatch | 08.05.2019 | JDC elec. | 22 |

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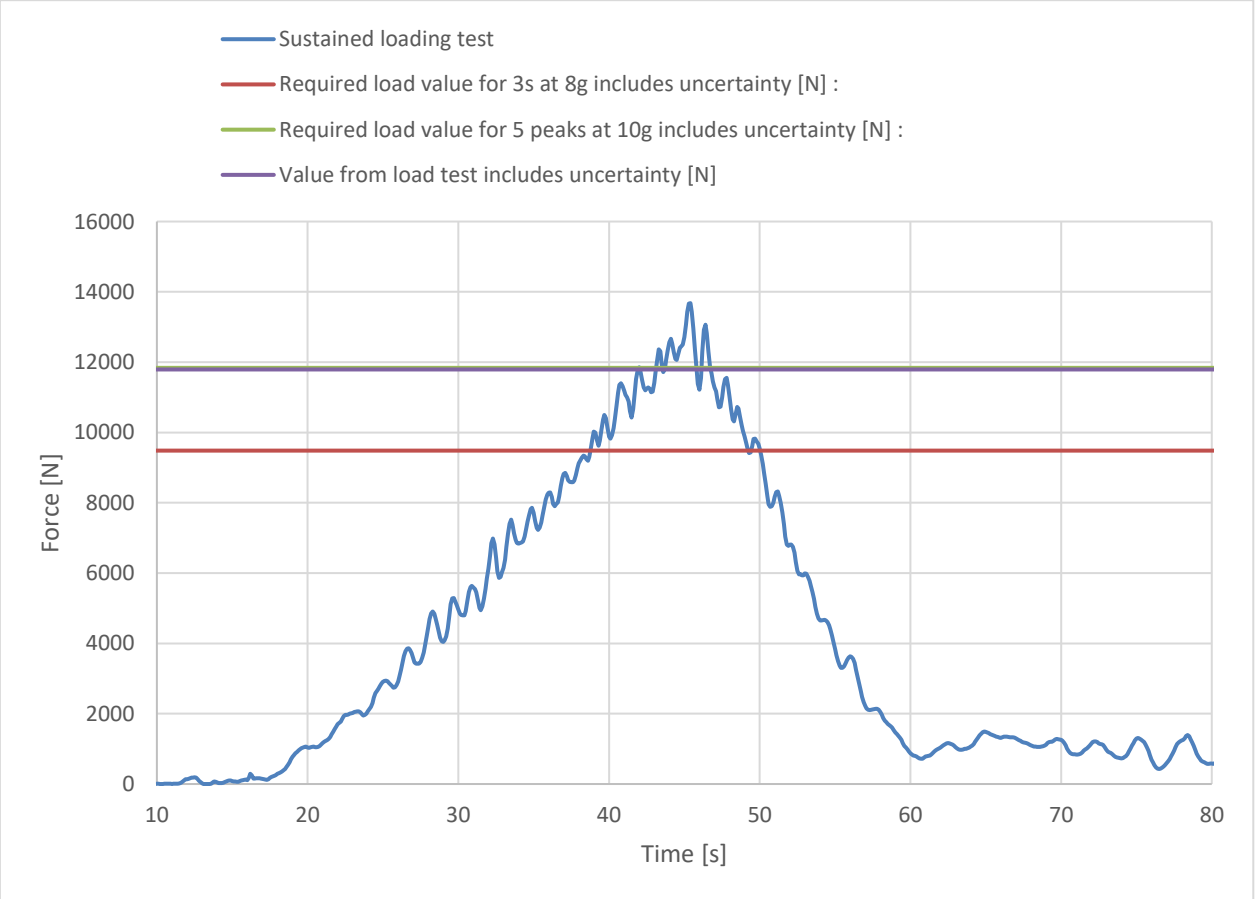
## Sustained loading test results [3]

| | |
|---|---|
| Result : | **POSITIVE** |
| Calculated max load value with 3 sec or five peaks [kg] : | **150.26** |

## Required sustained loading test results[4]

| | |
|---|---|
| Required load value for 3s at 8g [N] : | **9417.60** |
| Required load value for 5 peaks at 10g [N] : | **11772.00** |
| Required load value for 3s at 8g includes uncertainty [N] : | **9484.27** |
| Required load value for 5 peaks at 10g includes uncertainty [N] : | **11838.67** |
| Uncertainty K=2 [%] : | **0.487** |

## Graphic sustained loading diagram



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## Detailed sustained loading test results

| | |
|---|---|
| Calculated cumulative duration at max load [s] : | **3.3** |
| Calculated max load value duration of 3 sec. [N] : | **1474.04** |
| Calculated max load value duration of 3 sec. [kg] : | **150.26** |
| Calculated max load value with five peaks [N] : | **n/a** |
| Calculated max load value with five peaks [kg] : | **n/a** |
| Calculated max load value with 3 sec or five peaks [N] : | **1474.04** |
| Calculated max load value with 3 sec or five peaks [kg] : | **150.26** |

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

The validation of this test report is given by the signature of the test manager on inspection certificate 71.8.1

**Air Turquoise SA** has thoroughly tested the sample of paraglider mentioned above and certifies its conformity with the standards **EN 926-1:2015 chapter 4.4, 4.5 | LTF NFL II-91/09 chapter 3**

(1) The paraglider is subjected to a shock load . Shock load is limited using a weak link according to the weight range of glider. The weak link breaks or 5 s has elapsed since the start of the shock load. The wing is then visually inspected for damage.

(2) Weak link value include the uncertainty for weight range test values / The uncertainty state 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%.

(3) The test specimen (sample) is attached to the electronic sensors on the tow vehicle.
A controller is positioned on the tow vehicle in order to operate the paraglider control lines to stabilize the wing.
The speed of the vehicle is increased as gradually as possible, enabling the controller to obtain satisfactory stabilisation of the flight path of the paraglider.
When the paraglider has stabilized, the speed is increased gradually until either:
a) the measured load exceeds a load factor of eight times the maximum total weight in flight recommended by the manufacturer, for a minimum cumulative duration of 3 s; or
b) five peaks separated by at least 0,3 s are obtained above ten times the maximum total weight in flight recommended by the manufacturer, in one run.

(4) The calculated value include the value minus the uncertainty / 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%.