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Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes



# Harness inspection certificate

Inspection certificate number: PH\_216.2017 Impact pad number: n/a

#### Manufacturer data

Manufacturer name: Sky Paragliders
Representative: Nemec Martin
Street: Okruzni 39

Post code / place: 73911 Frydlant N.C.
Country: Czech Republic

| Sample data:                            | Harness      |                            | Impact pad |  |
|---|--------------|----------------------------|------------|--|
| Name:                                   | Crux         | Name Impact pad: (1)       | n/a        |  |
| Type:                                   | ABS          | Impact pad integrated: (1) | n/a        |  |
| Size:                                   | M            | Impact pad type:           | n/a        |  |
| Weight of Sample [kg]:                  | 0.465        | Weight of Sample [kg]: (1) | n/a        |  |
| Serial number:                          | 2261-13-7232 | Serial number: (1)         | n/a        |  |
| Clip-in weight [kg]:                    | 120          |                            |            |  |
| Integrated container for rescue system: | n/a          | Date of reception:         | n/a        |  |
| Volume container [cm <sup>3</sup> ]:    | n/a          | max                        |            |  |
|   | n/a          | min                        |            |  |
| Date of reception:                      | 24.11.2017   |                            |            |  |

| Test report summary | Structual test | Impact pad test |  |
|---------------------|----------------|-----------------|--|
| Result              | POSITIVE       | n/a             |  |
| Place               | Villeneuve     | n/a             |  |
| Date                | 24.11.2017     | n/a             |  |

### Issue data

Place of declaration: Villeneuve
Date of issue: 26.06.2018
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

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

<sup>(1)</sup> 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 dismounted from the harness, e.g. airbag.

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# **Harness Structural test Report**

Inspection certificate number: PH\_216.2017

Manufacturer data: Sample data:

Manufacturer name:Sky ParaglidersName:CruxRepresentative:Nemec MartinType:ABSStreet:Okruzni 39Size:M

Post code place: 73911 Frydlant N.C. Serial number: 2261-13-7232

Country: Czech Republic Impact pad type: (1) n/a Clip-in weight [kg]: 120

Date of test: **24.11.2017** 

Atmosphere AGL:

| [C°]   | 21.8   |
|--------|--------|
| RH [%] | 37     |
| [hPa]  | 1017.9 |

#### **Summary of Structural test**

| Test id | - | EN 1651 | Setup                          | Req. Load [g] | Req. Load [N] | Min. duration [s] | Result   |
|---------|---|---------|--------------------------------|---------------|---------------|-------------------|----------|
| R0      | ٧ | 5.3.2.1 | Default flying position        | 6             | 7200          | 10                | POSITIVE |
| R2      | ٧ | 5.3.2.2 | Default flying position        | 15            | 18000         | 5                 | POSITIVE |
| R4      | ٧ | 5.3.2.7 | Flying position before landing | 15            | 18000         | 5                 | POSITIVE |
| R6      |   | 5.3.2.4 | Rescue attachments             | 15            | 18000         | 5                 | n/a      |
| R8      | ٧ | 5.3.2.3 | Asymmetric, one riser          | 6             | 7200          | 10                | POSITIVE |
| R9      |   | 5.3.2.5 | Towing                         | 5             | 6000          | 10                | n/a      |
| R10     | ٧ | 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            | 0.00         | n/a    |  |

#### **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                | 0.00                  | n/a    |

| 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

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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 $<sup>^{(1)}</sup>$  If Impact pad available, see test report no. 94.22 and inspection certificate no. 94.20

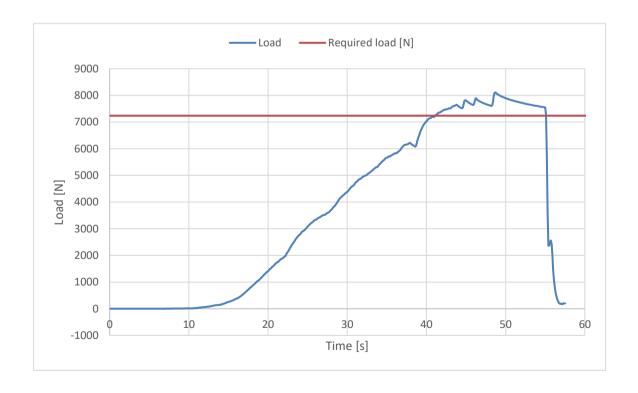
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Inspection certificate number: PH\_216.2017 model: Crux M

|                                  | Test ID R0  |
|----------------------------------|---|
| EN 1651:1999                     |   |
| 5.3.2.1                          |   |
| Default flying position          |   |
| Both main riser attachment (3,4) |   |
| Dummy (B1, B2)                   |   |
| 6                                |   |
| 7200                             |   |
| 10                               |   |
|                                  |   |
| 14                               | F/2 <b>↓ ↓</b> F/2  |
| No                               | $\langle \perp \mid \perp \rangle$  |
| POSITIVE                         | \3   4/   |
|                                  | ) [   |
|                                  |   |
|                                  | B1   B2   |
|                                  |   |
|                                  | F/2 V V F/2   |
|                                  |   |
|                                  | 5.3.2.1 Default flying position Both main riser attachment (3,4) Dummy (B1, B2)  6 7200 10  14 No |



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

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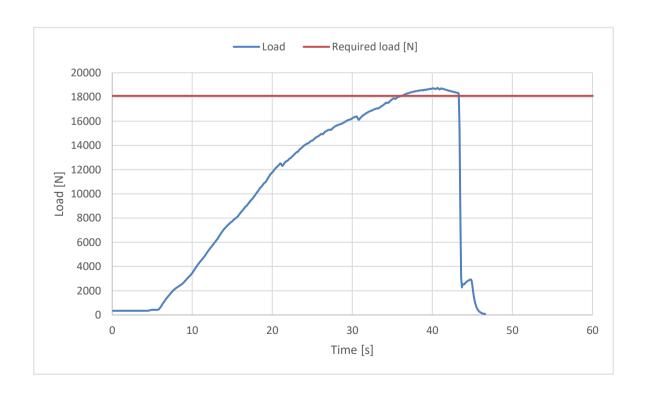
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Inspection certificate number: PH\_216.2017 model: Crux M

| 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]               | 7.2                              | F/2 A A F/2                                |
| Any signs of structural failure | No                               |  |
| Test results                    | POSITIVE                         | \3   4/                                    |
|                                 |                                  | )   (                                      |
|                                 |                                  |  |
|                                 |                                  | B1   B2                                    |
|                                 |                                  |  |
|                                 |                                  | F/2 \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ |
|                                 |                                  |  |



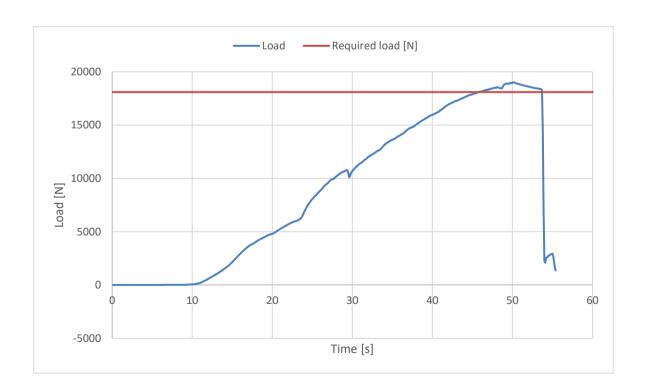
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Inspection certificate number: PH\_216.2017 model: Crux M

| 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                          |                                  | F. (+)        |
| Test duration [s]               | 8                                | $\mathcal{H}$ |
| Any signs of structural failure | No                               | 3/44          |
| Test results                    | POSITIVE                         | 1 /           |
|                                 |                                  | ~ / /         |
|                                 |                                  | /             |
|                                 |                                  |               |
|                                 |                                  | 7/8 / 11      |
|                                 |                                  |               |
|                                 |                                  |               |



and paraglider reserve parachutes

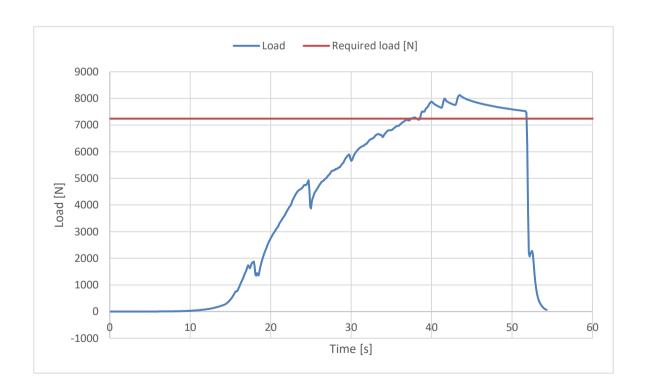
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Inspection certificate number: PH\_216.2017 model: Crux M

| <b>Harness Structural test</b>  |                               | 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                          |                               | ∫ <sup>F</sup> /                       |
| Test duration [s]               | 13.3                          | B1 3                                   |
| Any signs of structural failure | No                            | \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
| Test results                    | POSITIVE                      |  |
|                                 |                               | $\bigvee$                              |
|                                 |                               | B2                                     |
|                                 |                               |  |
|                                 |                               | 8 c                                    |
|                                 |                               | <b>♥</b> F                             |
|                                 |                               |  |



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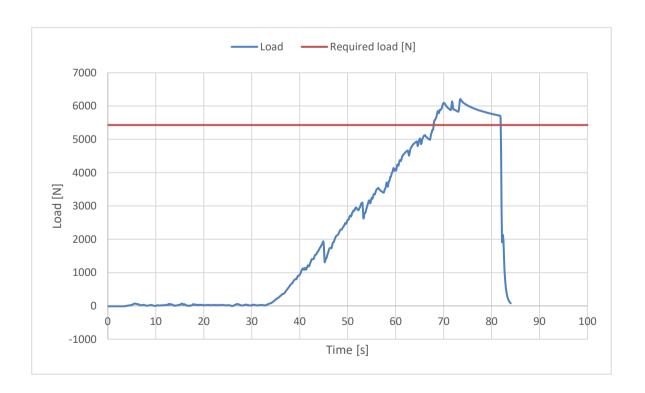
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Inspection certificate number: PH\_216.2017 model: Crux M

| Harness Structural test         |                             | Test ID R10           |
|---------------------------------|-----------------------------|-----------------------|
| Standard                        | EN 1651:1999                |                       |
| 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                         | <b>↓</b> <sup>F</sup> |
| Required load [N]               | 5400                        | 9                     |
| Minimum test duration [s]       | 10                          |                       |
| Result                          |                             | ) /                   |
| Test duration [s]               | 14                          |                       |
| Any signs of structural failure | No                          | 3/4                   |
| Test results                    | POSITIVE                    |                       |
|                                 |                             |                       |



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### **Paragliding Harness**

| Inspection number :   | PH_216.  | 2017           |         |
|---|----------|----------------|---------|
| Manufacturer:   | Sky Para | agliders       |         |
| Model and size :  | Crux M   |                |         |
| Maximum pilot weight [kg]:                                      | 120      |                |         |
| Integrated container for rescue system:                         | n/a      |                |         |
| If Yes. Volume of the container [cm <sup>3</sup> ]:             |          | <b>n/a</b> min | n/a max |
| Serial number:  |          |                |         |
| Production date (year / month):                                 |          |                |         |
|   |          |                |         |
| Harness protector (impact pad)                                  |          |                |         |
| Impact pad type:  | n/a      |                |         |
| Impact pad integrated:  | n/a      |                |         |
| Impact pad number:  | n/a      |                |         |
| If not integrated : Manufacturer                                | Seı      | rial 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