AIR TURQUOISE SA | Rte du Pré-au-Comte 8 | CH-1844 Villeneuve | +41 (0)21 965 65 65
Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

PH PARAGLIDER HARNESSES
INSPECTION CERTIFICATE

Inspection certificate number: **PH_204.2017**

MANUFACTURER DATA

Manufacturer name: **AIR MKG - Kortel Design**
Contact person: **Denis Cortella**
Street: **1096 Avenue André Lasquin**
Post code / place: **74700 Sallanches**
Country: **France**

SAMPLE DATA

Name: **Kanibal Racer II**
Type: **ABS**
Impact pad type: **Foam**
Serial number : **HO 003**
Volume reserve parachute container [cm3] Min: **2600**
Max: **9400**

Size: **M**
Pilot max load [kg] : **105**
Weight [kg]: **9.3**
Reception date : **06.10.2017**

ISSUE DATA

Place of declaration: **Villeneuve**
Date of issue: **23.01.2018**
Managing Director: **Alain Zoller**

Signature:

This signature aprouve 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: RRDT,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, RRDT,RRST**

Inspection certificate number: **PH_204.2017**

A. STRUCTURAL STRENGHT 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. / Max. [N]	Resistance measured [N]	
RRDT	✓	6.1.5	**Default flying position**	Test sample is attached to the dummy like a pilot in flight.		20	43.0	POSITIVE
				(no dummy required)		70		POSITIVE

C. RESCUE DEPLOYMENT STRAP STRENGHT 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. Test duration [s]	Breaking resistance measured [N]	Result
		EN 12491:2001					
RRST	✓	5.3.2	**Connection strap in tensile testing machine**	700	10	2496.0	POSITIVE

Calculed 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%.

HARNESS STRUCTURAL STRENGHT TEST

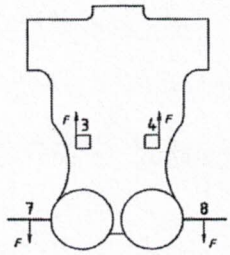
TEST REPORT PH **ID 0**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_204.2017**
Manufacturer name: **AIR MKG - Kortel Design**
Name: **Kanibal Racer II**
Max load [kg] : **105**
Serial number : **HO 003**
Place and date of test : **Villeneuve, 06.10.2017**
Test responsible: **Alain Zoller**

Directives: EN 1651:1999

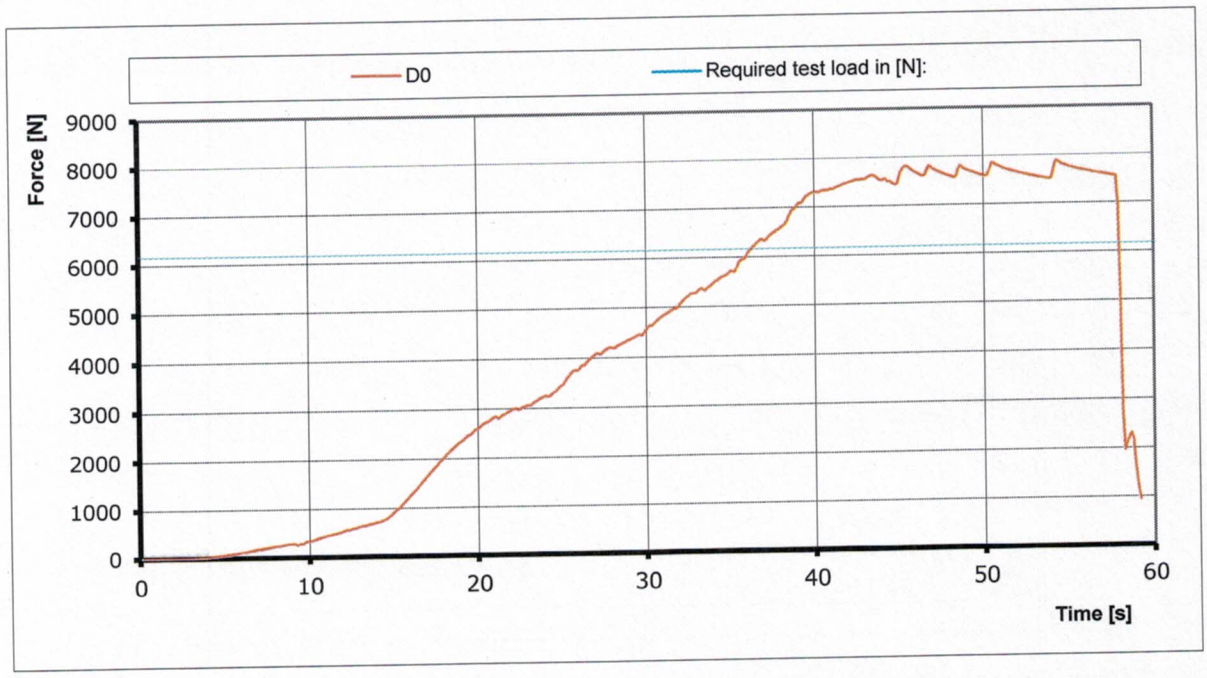
Test standard §: **5.3.2.1**
Test setup: **Default flying position**
Attachment points: **Both main riser attachments (3, 4)**
Dummy: **Default, hip fixed (7, 8)**
Required load in force [g] : **6**
Model max load [kg]: **105**
Required test load in [N]: **6180**
Min. duration test load [s]: **10**



Results

Duration of maintained min. load [s]: **21.58**
Any signs of structural failure after this test: **no failure**
Test result: **POSITIVE**
Graph: **D0**

[C°] **22.5**
RH [%] **54**
[hPa] **1021.2**



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

HARNESS STRUCTURAL STRENGHT TEST

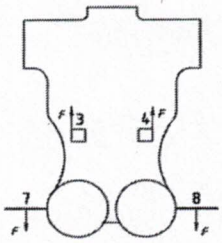
TEST REPORT PH **ID 2**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_204.2017**
Manufacturer name: **AIR MKG - Kortel Design**
Name: **Kanibal Racer II**
Max load [kg] : **105**
Serial number : **HO 003**
Date of test : **Villeneuve, 06.10.2017**
Test responsible: **Alain Zoller**

Directives: EN 1651:1999

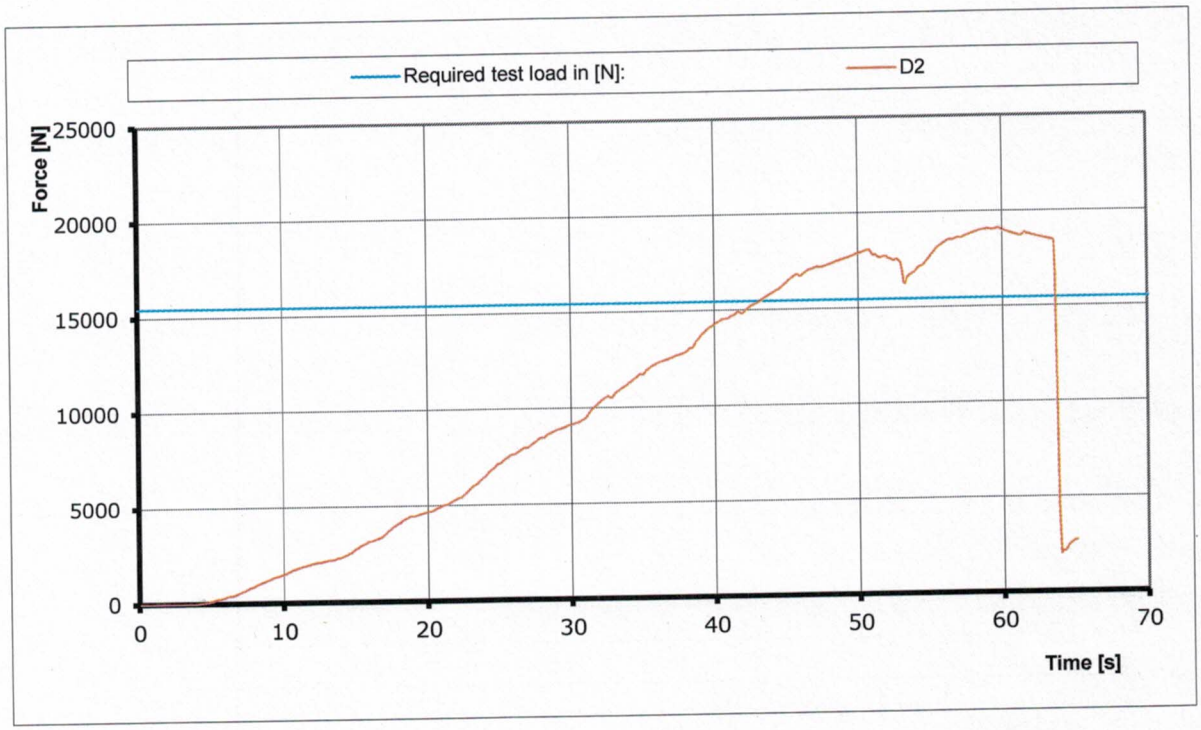
Test standard §: **5.3.2.2**
Test setup: **Default flying position**
Attachment points: **Both main riser attachments (3, 4)**
Dummy: **Default, hip fixed (7, 8)**
Required load in force [g] : **15**
Model max load [kg]: **105**
Required test load in [N]: **15451**
Min. duration [s]: **5**



Results

Duration of maintained min. load [s]: **20.30**
Any signs of structural failure after this test: **no failure**
Test result: **POSITIVE**
Graph: **D2**

[C°] **22.5**
RH [%] **54**
[hPa] **1021.2**



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

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HARNESS STRUCTURAL STRENGHT TEST

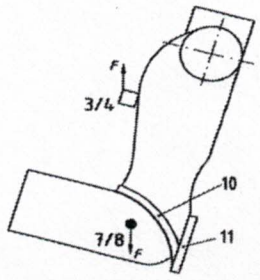
TEST REPORT PH **ID 4**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_204.2017**
Manufacturer name: **AIR MKG - Kortel Design**
Name: **Kanibal Racer II**
Max load [kg] : **105**
Serial number : **HO 003**
Date of test : **Villeneuve, 06.10.2017**
Test responsible: **Alain Zoller**

Directives: EN 1651:1999

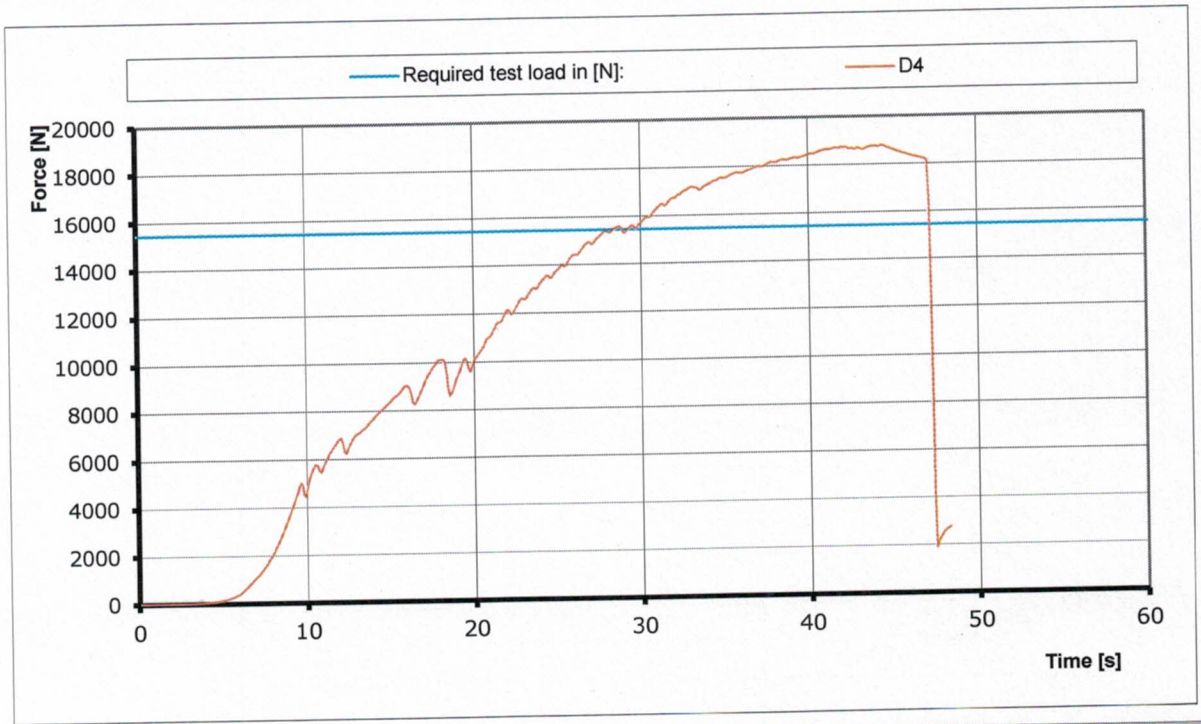
Test standard §: **EN 5.3.2.7**
Test setup: **Flying position before landing: seat board (11) in landing position, leg straps (10) closed.**
Attachment points: **Both of the main riser attachments attached (3 and 4);**
Dummy: **Default, hip fixed (7, 8)**
Required load in force [g] : **15**
Model max load [kg]: **105**
Required test load in [N]: **15451**
Min. duration [s]: **5**



Results

Duration of maintained min. load [s]: **18.55**
Any signs of structural failure after this test: **no failure**
Test result: **POSITIVE**
Graph: **D4**

[C°] **22.5**
RH [%] **54**
[hPa] **1021.2**



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

HARNESS STRUCTURAL STRENGHT TEST

TEST REPORT PH **ID 6**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_204.2017**
Manufacturer name: **AIR MKG - Kortel Design**
Name: **Kanibal Racer II**
Max load [kg] : **105**
Serial number : **HO 003**
Date of test : **Villeneuve, 06.10.2017**
Test responsible: **Alain Zoller**

Directives: EN 1651:1999

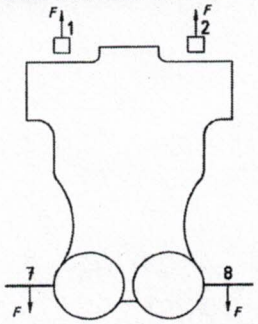
Test standard §: **5.3.2.4**

Test setup: **Rescue attachments**

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

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

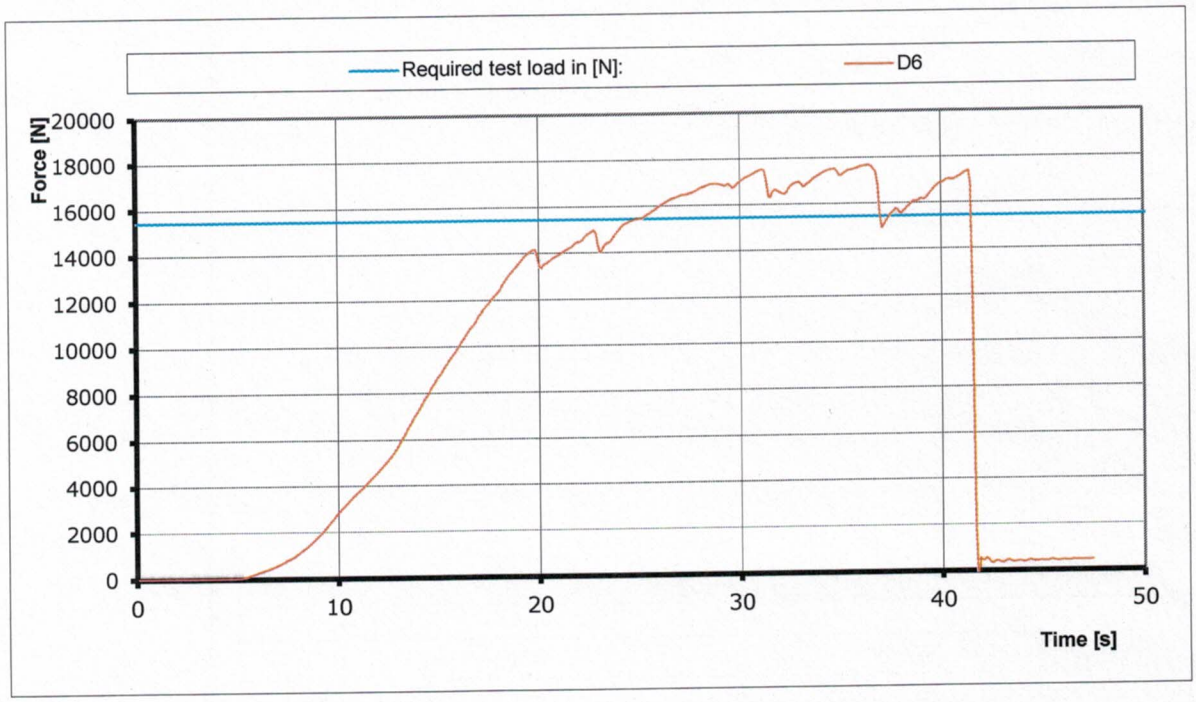
Required load in force [g] : **15**
Model max load [kg]: **105**
Required test load in [N]: **15451**
Min. duration [s]: **5**



Results

Duration of maintained min. load [s]: **11.67**
Any signs of structural failure after this test: **no failure**
Test result: **POSITIVE**
Graph: **D6**

[C°] **22.5**
RH [%] **54**
[hPa] **1021.2**



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

HARNESS STRUCTURAL STRENGHT TEST

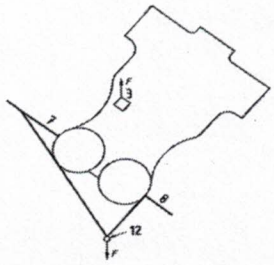
TEST REPORT PH **ID 8**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_204.2017**
Manufacturer name: **AIR MKG - Kortel Design**
Name: **Kanibal Racer II**
Max load [kg] : **105**
Serial number : **HO 003**
Date of test : **Villeneuve, 06.10.2017**
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)**

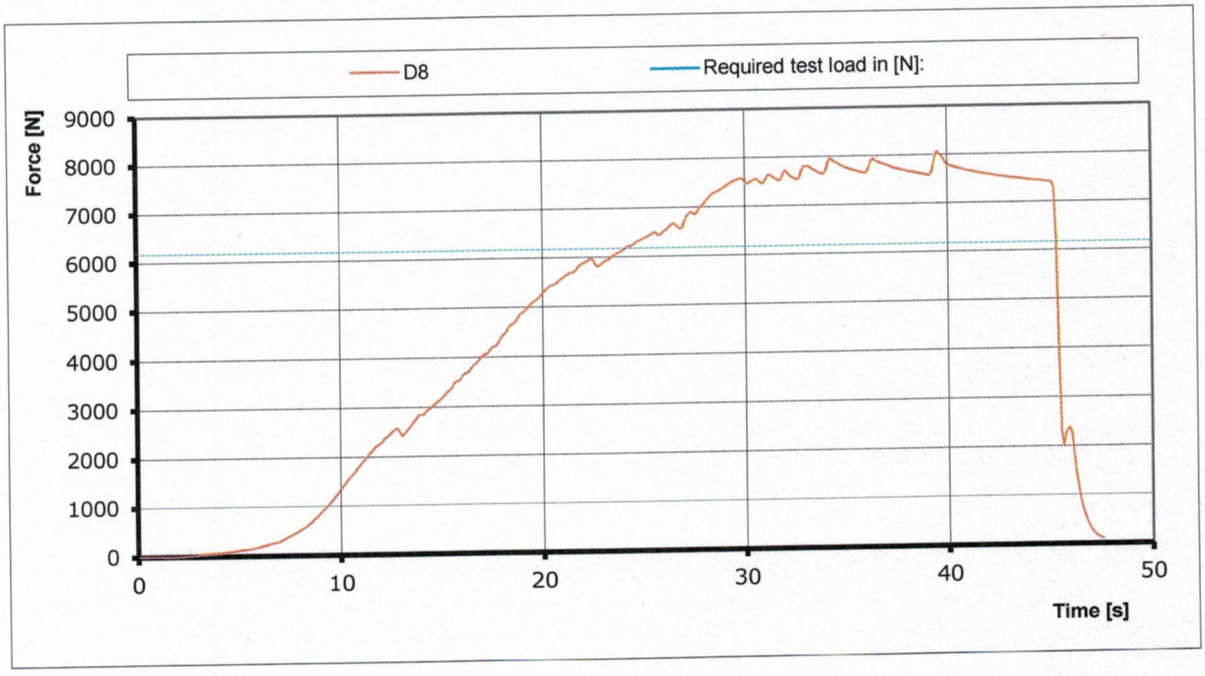


Required load in force [g] : **6**
Model max load [kg]: **105**
Required test load in [N]: **6180**
Min. duration [s]: **10**

Results

Duration of maintained min. load [s]: **20.97**
Any signs of structural failure after this test: **no failure**
Test result: **POSITIVE**
Graph: **D8**

[C°] **22.5**
RH [%] **54**
[hPa] **1021.2**



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

HARNESS STRUCTURAL STRENGHT TEST

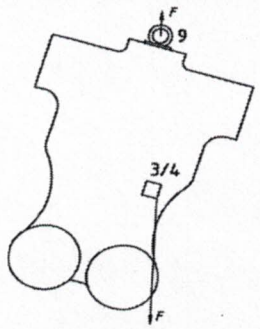
TEST REPORT PH **ID 10**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_204.2017**
Manufacturer name: **AIR MKG - Kortel Design**
Name: **Kanibal Racer II**
Max load [kg] : **105**
Serial number : **HO 003**
Date of test : **Villeneuve, 06.10.2017**
Test responsible: **Alain Zoller**

Directives: EN 1651:1999

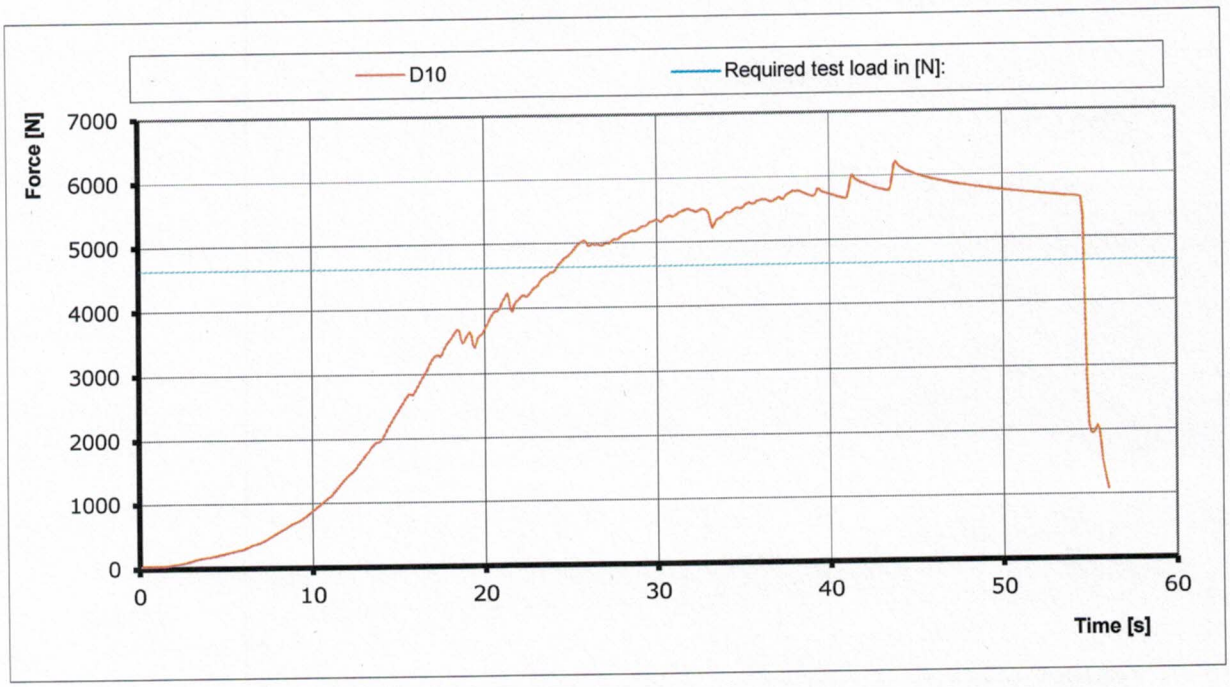
Test standard §: **5.3.2.6**
Test setup: **Normal flying position in NEGATIF**
Attachment points: **ONE of the main riser attachments attached downwards(3 or 4);**
Dummy: **Dummy anchored at the head position (9)**
Required load in force [g] : **4.5**
Model max load [kg]: **105**
Required test load in [N]: **4635**
Min. duration [s]: **10**



Results

Duration of maintained min. load [s]: **30.37**
Any signs of structural failure after this test: **no failure**
Test result: **POSITIVE**
Graph: **D10**

[C°] **22.5**
RH [%] **54**
[hPa] **1021.2**



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

HARNESS STRUCTURAL STRENGHT TEST

TEST REPORT PH **RRDT**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_204.2017**

Manufacturer name: **AIR MKG - Kortel Design**

Name: **Kanibal Racer II**

Max load [kg] : **105**

Serial number : **HO 003**

Date of test : **Villeneuve, 20.10.2017**

Test responsible: **Alain Zoller**

Directives: Nfl 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**

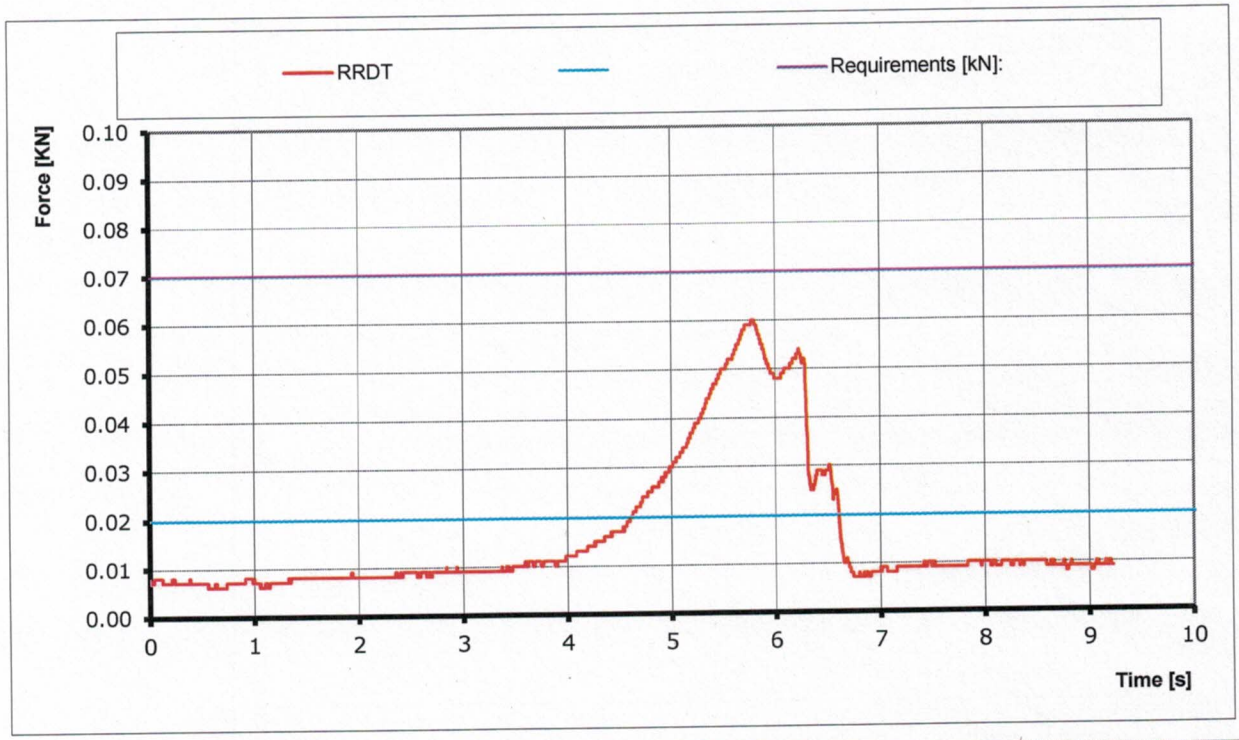
Min force to prevent unwanted opening [kN]: **0.02**

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

Test result 20 [N]: **POSITIVE** [C°] **21.1**

Test result 70 [N]: **POSITIVE** RH [%] **45**

Graph: **RRDT** [hPa] **1017.9**



Instruments	Validity calibration	Manufacturer	Type nr.	S/N
Load Cell (axial)	11.06.2016	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

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HARNESS STRUCTURAL STRENGHT TEST

TEST REPORT PH **RRST**

PH PARAGLIDER HARNESSES

Inspection certificate number: **PH_204.2017**

Manufacturer name: **AIR MKG - Kortel Design**

Name: **Kanibal Racer II**

Max load [kg] : **105**

Serial number : **HO 003**

Date of test : **Villeneuve, 20.10.2017**

Test responsible: **Alain Zoller**

Directives: EN 12491:2001 & Nfl 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**

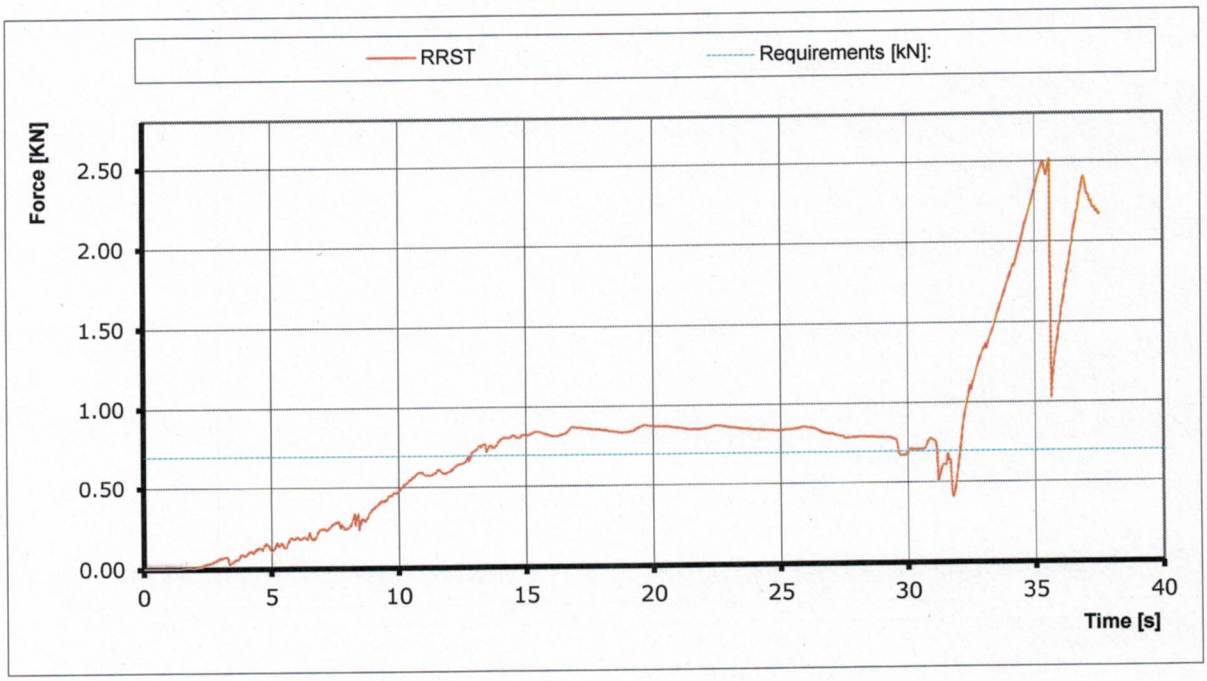
Results

Duration of maintained load [s]: **16.73** [C°] **21.1**

Calculed max value of breaking resistance [KN]: **2.50** RH [%] **45**

Test result: **POSITIVE** [hPa] **1017.9**

Graph: **RRST**



Instruments	Validity calibration	Manufacturer	Type nr.	S/N
Load Cell (axial)	11.06.2016	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