



EP EMERGENCY PARACHUTE

INSPECTION CERTIFICATE

Inspection certificate number: **EP 153.2016**

MANUFACTURER DATA

Manufacturer name: **U-Turn GmbH**
 Representative: **Ernst Strobl**
 Street: **Im Neuneck 1**
 Post code / place: **78609 Tuningen**
 Country: **Germany**

SAMPLE DATA

Name: **Backup X** Size: **115**
 Type: **Unsteerable** *Payload [kg]: **115**
 Weight [kg]: **1230** *Total weight in flight minus weight of paraglider
 Use: **Single-seater** Volume packed [cm3]: **4260**
 Serial number flight: **BC-BACKUPX-115-11C-1000** Date of reception: **12.04.2016**
 Serial number load: **BC-BACKUPX-115-11C-1001** Date of reception: **12.04.2016**

TEST REPORT SUMMARY		RESULTS	PLACE	DATES
EP1	Deployment system strength test	POSITIVE	Villeneuve	06.01.2016
EP2	Speed of opening, descent rate and stability test	POSITIVE	Villeneuve	06.07.2016
EP3	Strength test / opening shock	POSITIVE	Illarsaz	19.06.2016
EP4	Connecting strap (riser)	POSITIVE	Villeneuve	21.12.2015
EP5	Interaction and stability test	N/A	n/a	n/a

ISSUE DATA

Date of issue: **23.08.2016**
 Place of declaration: **Villeneuve**
 Managing Director: **Alain Zoller**

Signature:

This signature approve the validity of the test reports EP 1 to EP 5 (Only if test report are applicable).

Air Turquoise SA, having thoroughly assessed the sample mentioned hereunder, declare it was found conform with all requirements defined by the following directives:

EN 12491:2001 and LTF NFL II 91/09 chapter 6 Paraglider rescue systems
 LTF Ref chapter: 6.1.1 to 6.1.19, exclusion 6.1.10

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 number EP1 to EP4, EP5 for steerable model only.

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Deployment system strength test

TEST REPORT EP 1

EP PARAGLIDERS RESCUE SYSTEMS

Inspection certificate ref. number: EP 153.2016

MANUFACTURER DATA

Manufacturer name: U-Turn GmbH
Representative: Ernst Strobl
Street: Im Neuneck 1
Post code / place: 78609 Tuningen
Country: Germany

SAMPLE DATA

Name: Backup X
Size: 115
Payload [kg]: 115
Serial number: BC-BACKUPX-115-11C-1001
Date of reception: 12.04.2016

ISSUE DATA

Place of test: Villeneuve
Date of test: 06.01.2016
Inspector: Alain Zoller
Results: POSITIVE
Directive: EN 12491 | 2001 chapter 5.3.2 and LTF 91/09 chapter 6.1.8

The deployment system (the connection between handgrip and inner container) is loaded at min 700 [N] over 10 secondes. The deployment system is loaded until breaking. Each component is tested.

ATMOSPHERE AGL

[C°] 20.2
RH [%] 38
[hPa] 997.8

RESULTS

Minimum strength required during min 10s: 700 [N]

Strength of 700 N duration each components no1 [s]: 21.32
Strength of 700 N duration each components no2 [s]: 31.7
Strength of 700 N duration each components no3 [s]: 10.1
Uncertainty K=2 [N]: 17.0
Calculated time value for minimum strength [s]: 21.32

Max strength components:

Max strength components no1 [N]: 1304.0
Max strength components no2 [N]: 1043.0
Max strength components no3 [N]: 849.0
Uncertainty K=2 [N]: 17.0
Calculated max strength value [N]: 849.0

Calculated value 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%.

The validation of this test report is given by the signature of the test manager on inspection certificate 71.5.1

Deployment system strength test

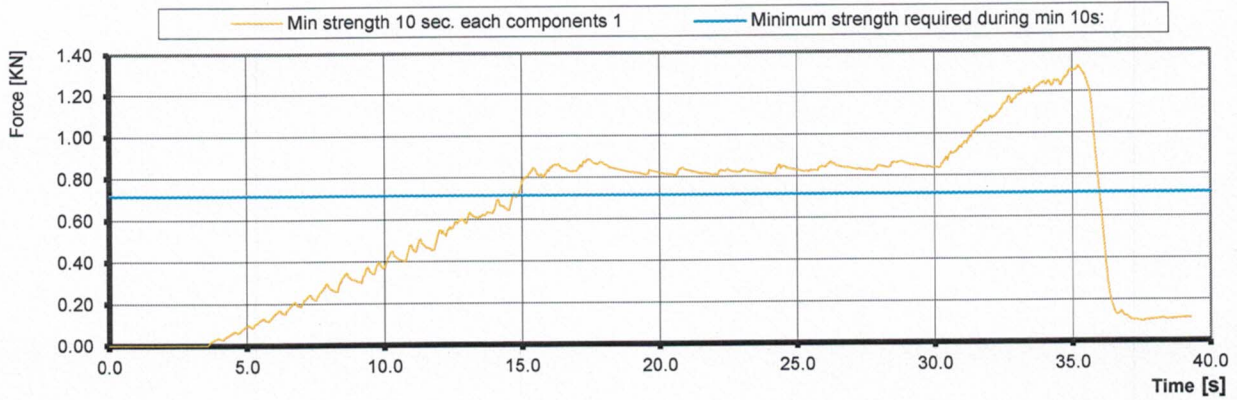
TEST REPORT EP 1

EP PARAGLIDERS RESCUE SYSTEMS

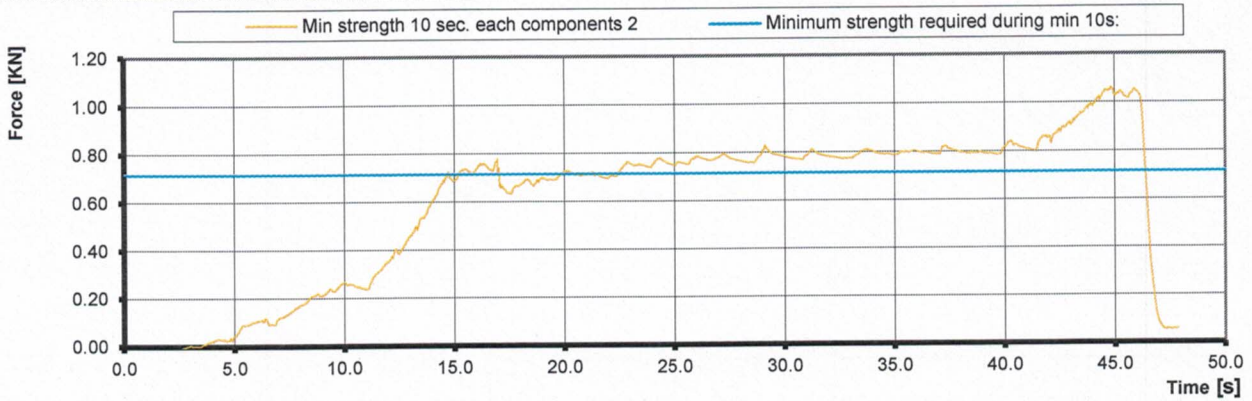
Inspection certificate ref. number: EP 153.2016

GRAPHIQUE RESULTS

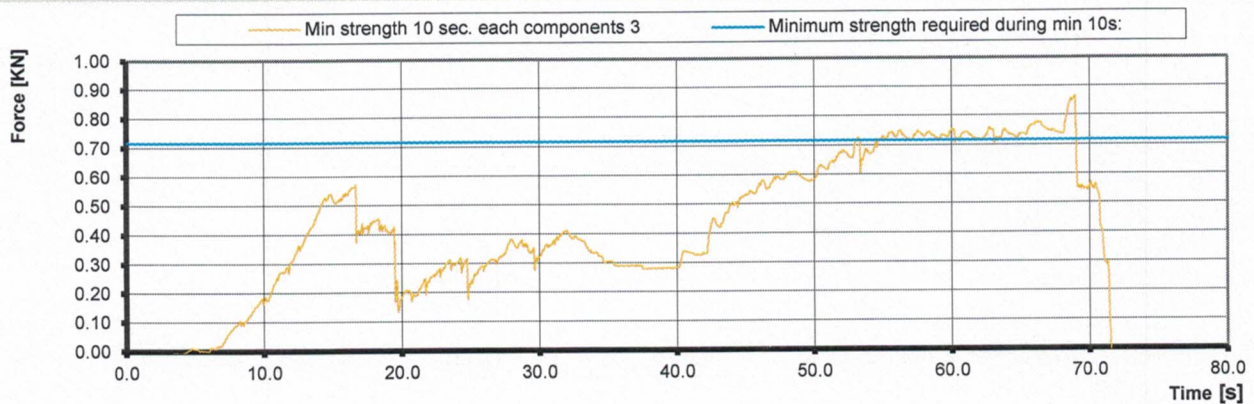
Min strength 10 sec. each components 1



Min strength 10 sec. each components 2



Min strength 10 sec. each components 3



Involved test	Item	Validity	Manufacturer	Type nr.	S/N
Deployment system strength test	Load Cell (axial)	11.06.2016	Burster / MTS	8431-10000	1185483
Deployment system strength test	Winch	15.01.2018	Arwin	300/600	n/a
Weather	Geos n° 11 Skywatc	08.05.2017	JDC elec.	Geos n° 11	22

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Speed of opening and descent rate and stability test

TEST REPORT EP 2

EP PARAGLIDERS RESCUE SYSTEMS

Inspection certificate ref. number: EP 153.2016

MANUFACTURER DATA

Manufacturer name: U-Turn GmbH
Representative: Ernst Strobl
Street: Im Neuneck 1
Post code / place: 78609 Tunningen
Country: Germany

SAMPLE DATA

Name: Backup X
Size: 115
Payload [kg]: 115
Serial number: 4260
Date of reception: 12.04.2016

ISSUE DATA

	Test no1	Test no2
Place of tests:	Villeneuve	Villeneuve
Date of tests:	22.06.2016	06.07.2016
Inspectors:	Alain Zoller	Alain Zoller
Results:	POSITIVE	

Directive: EN 12491:2001 chapter 5.3.3 / 5.3.4 - LTF NFL II 9/09 chapter 6

The rescue system is dropped from a paraglider in straight flight at 8 [m/s] +-1 [m/s] and a vertical airspeed of less than 1,5 [m/s].
The paraglider is released as the rescue system begins to open. Wink link 200 [N] is used to measure the speed opening.
After a minimum of 100 m of descent, the average rate of descent is measured over 30 m of descent.
The test is carried out twice.

ATMOSPHERE AGL

	Test no1	Test no2
[C°]	25	25
RH [%]	76	66
[hPa]	979.2	975.3
Wind [m/s]	0.1	0.1

RESULTS

	EN	LTF
Time of opening test:	POSITIVE	POSITIVE
Requirement time from the instant of free drop until a load of 200 [N] is sustained [s]:	5.00	5.00
Calculated sink rate test:	POSITIVE	POSITIVE
Maximum sink rate test requirements [m/s]:	5.50	6.80
Stability test:	POSITIVE	POSITIVE
Behavior during descent stability test:	1 Stable	Stable

Calculated value 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%.

The tests do not include any compatibility tests with alternative inner containers.

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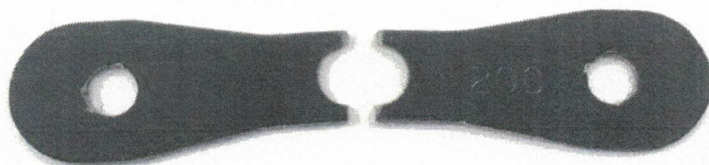
Speed of opening and descent rate and stability test

TEST REPORT EP 2

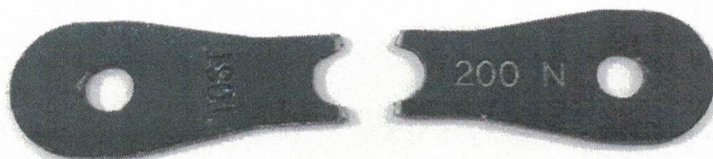
PARAGLIDERS RESCUE SYSTEMS

Inspection certificate ref. number: EP 153.2016

WINK LINKS 1



WINK LINKS 2



involved test	Item	Validity	Manufacturer	Type nr.	S/N
Deployment system strength test	Weak links	2030	Tost	n/a	n/a
Descent rate and stability test	Line 30 meters	2020	Air Turquoise	n/a	n/a
Weather	Geos n° 11 Skywatch	08.05.2017	JDC elec.	Geos n° 11	22

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Strength test / opening shock

TEST REPORT EP 3

EP PARAGLIDERS RESCUE SYSTEMS

Inspection certificate ref. number: EP 153.2016

MANUFACTURER DATA

Manufacturer name: U-Turn GmbH
 Representative: Ernst Strobl
 Street: Im Neuneck 1
 Post code / place: 78609 Tuningen
 Country: Germany

SAMPLE DATA

Name: Backup X
 Size: 115
 Payload [kg]: 115
 Serial number: BC-BACKUPX-115-11C-1000
 Date of reception: 12.04.2016

ISSUE DATA

	Test no1	Test no2
Place of test:	Illarsaz	Illarsaz
Date of test: 1 2	19.06.2016	19.06.2016
Inspector:	Alain Zoller	Alain Zoller
Results:	POSITIVE	
Directive:	EN 12491:2001 chapter 5.3.5.1 - LTF NFL II 9/09 chapter 6	

The emergency parachute (in its standard inner container and packed according to the user's manual instructions) is stowed on the drop test device. The test parachute's riser (or both risers in the case of a two riser parachute) is (are) connected to the single anchor point on the drop test device using the connector(s) specified and supplied by the parachute manufacturer.

The drop test device is accelerated to a straight line velocity of 40 m/s and the parachute deployed using its handle or handle attachment point by a static line attached to a drogue chute or similar low force deployment system.

The test is carried out twice with the same parachute.

Speed of opening must be less than 5 seconds and shock not exceeded 15g.

ATMOSPHERE AGL

	Test no1	Test no2
[C°]	972.3	969.4
RH [%]	21	25.8
[hPa]	62	57
Wind [m/s]	0.2	0.5

TEST RESULTS

Speed of opening in max 5 secondes

Speed of opening test 1: POSITIVE
 Speed of opening test 2: POSITIVE

Sample statut after shock

Strength test 40 m/s opening shock 1: POSITIVE
 Strength test 40 m/s opening shock 2: POSITIVE

Aircraft speed Uncertainty K=2 [m/s] 1.7

Calculated value 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%.

Involved test	Item	Validity	Manufacturer	Type nr.	S/N
Strength test 40 m/s opening shock	Weight	2020	Air Turquoise	n/a	n/a
Weather	Geos n° 11	08.05.2017	JDC elec.	Geos n° 11	22
Strength test 40 m/s opening shock	Weak link	2020	Tost	n/a	n/a

The validation of this test report is given by the signature of the test manager on inspection certificate 71.5.1

Connecting strap (riser)

TEST REPORT EP 4

EP PARAGLIDERS RESCUE SYSTEMS

Inspection certificate ref. number: **EP 153.2016**

MANUFACTURER DATA

Manufacturer name: **U-Turn GmbH**
 Representative: **Ernst Strobl**
 Street: **Im Neuneck 1**
 Post code / place: **78609 Tuningen**
 Country: **Germany**

SAMPLE DATA

Name: **Backup X**
 Size: **115**
 Payload [kg]: **115**
 Serial number: **BC-BACKUPX-115-11C-1001**
 Date of reception: **12.04.2016**

ISSUE DATA

Place of test: **Villeneuve**
 Date of test: **21.12.2015**
 Inspector: **Alain Zoller**
 Results: **POSITIVE**
 Directive: **LTF NFL II 9/09 chapter 6.1.4**

The connecting strap has to have a minimum load capacity of 24000 [N]. The exposed part of the connecting belt has to be protected against environmental factors.

ATMOSPHERE AGL

[C°] **21.8**
 RH [%] **42**
 [hPa] **1033.4**

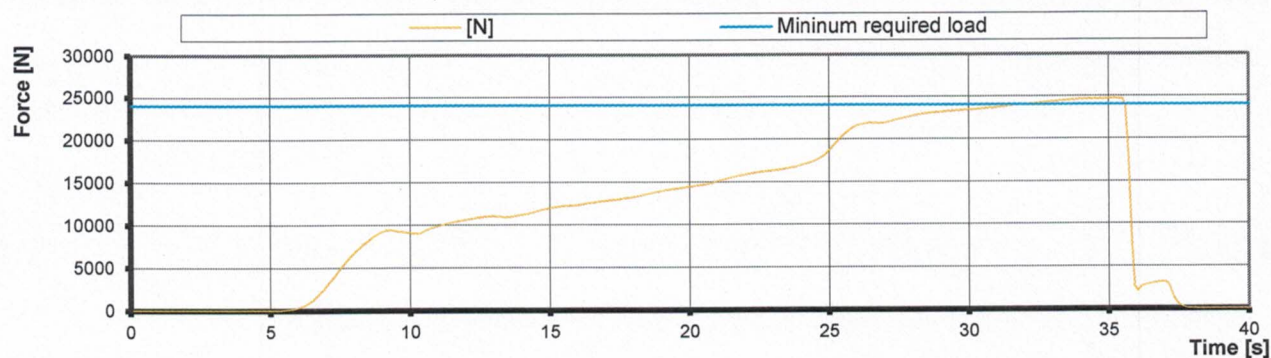
RESULTS [N]

Minimum required load 24000
 Load capacity 1 24770
 Uncertainty k=2 105

Calculated max load capacity value: **24665**

Calculated value 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%.

GRAPHIQUE RESULTS [N]



Instruments	Manufacturer	Type nr.	Validity	S/N
Load sensor	HBM	1-S9M/50KN-1	14.10.2017	31314652
Geos n°11 Skywatch	JDC	Geos n° 11	07.04.2017	0022

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