



# EP EMERGENCY PARACHUTE

## INSPECTION CERTIFICATE

Inspection certificate number: **EP\_142.2016**

### MANUFACTURER DATA

Manufacturer name: **Leechute Co. Ltd.**  
 Representative **Jun Youn Lee**  
 Street: **103-202, 25#, Gyeongchung-daero**  
 Post code / place: **1422 beon-gil, Gwangju-si, Gyeonggi-do**  
 Country: **Korea**

### SAMPLE DATA

Name: **Square** Size: **100**  
 Type: **Unsteerable** \*Payload [kg]: **100**  
 Weight [kg]: **1187** \*Total weight in flight minus weight of paraglider  
 Use: **Single-seater** Volume packed [cm3]: **3580**  
 Serial number flight: **LCR-SQR151101** Date of reception: **11.11.2015**  
 Serial number load: **LCR-SQR151102** Date of reception: **11.11.2015**

### TEST REPORT SUMMARY

### RESULTS

### PLACE

### DATES

		RESULTS	PLACE	DATES
EP1	Deployment system strength test	POSITIVE	Villeneuve	06.01.2016
EP2	Speed of opening, descent rate and stability test	POSITIVE	Villeneuve	24.11.2015
EP3	Strength test / opening shock	POSITIVE	Illarsaz	18.02.2016
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: **09.08.2016**  
 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

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.

This declaration must not be reproduced in part without the written permission of AIR TURQUOISE SA.

# Deployment system strength test

TEST REPORT EP 1

EP PARAGLIDERS RESCUE SYSTEMS

Inspection certificate ref. number: EP\_142.2016

## MANUFACTURER DATA

Manufacturer name: Leechute Co. Ltd.  
Representative: Jun Youn Lee  
Street: 103-202, 25#, Gyeongchung-daero  
Post code / place: 1422 beon-gil, Gwangju-si, Gyeonggi-do  
Country: Korea

## SAMPLE DATA

Name: Square  
Size: 100  
Payload [kg]: 100  
Serial number: LCR-SQR151102  
Date of reception: 11.11.2015

## 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

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]: 1.68  
Strength of 700 N duration each components no2 [s]: 21.3  
Strength of 700 N duration each components no3 [s]: n/a  
Uncertainty K=2 [N]: 17.0  
Calculated time value for minimum strength [s]: 1.68

## Max strength components:

Max strength components no1 [N]: 1297.0  
Max strength components no2 [N]: 1.304  
Max strength components no3 [N]: n/a  
Uncertainty K=2 [N]: 17.0  
Calculated max strength value [N]: 1.3

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

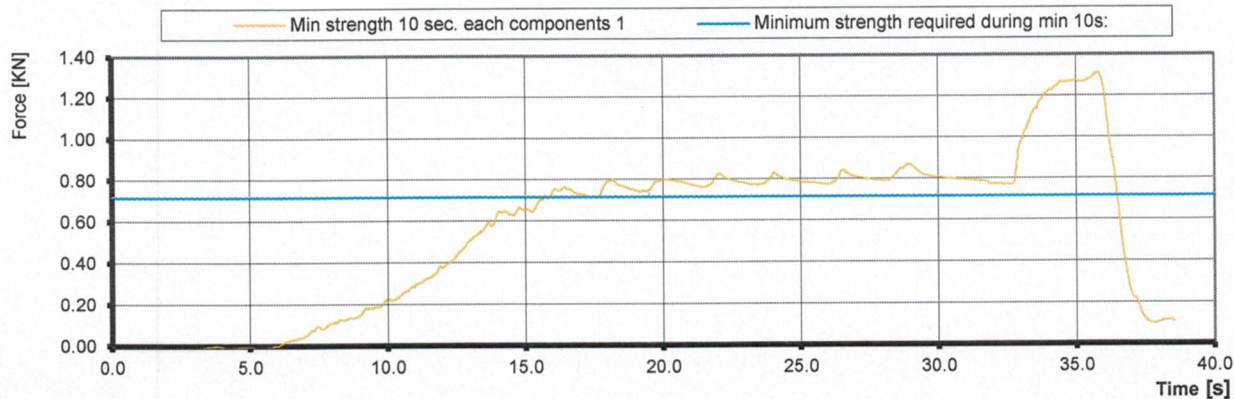
TEST REPORT EP 1

EP PARAGLIDERS RESCUE SYSTEMS

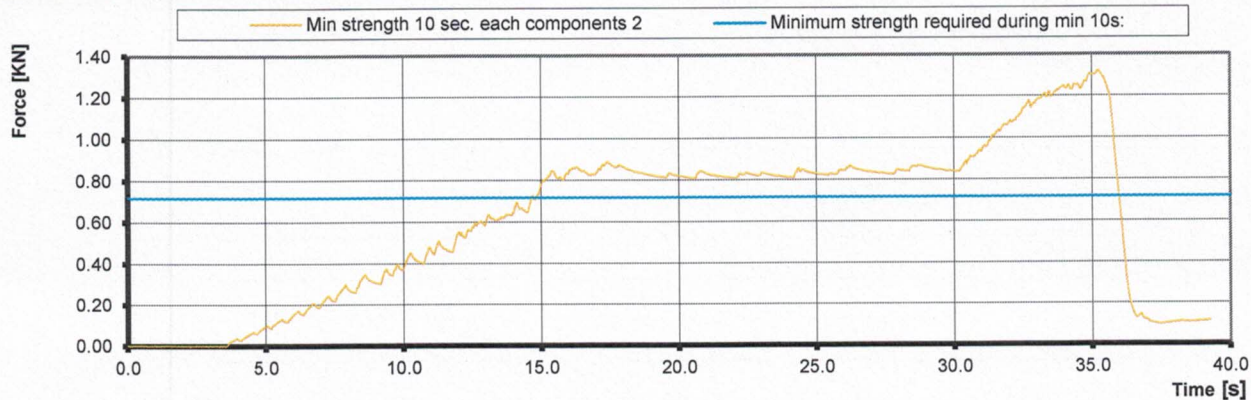
Inspection certificate ref. number: EP\_142.2016

## GRAPHIQUE RESULTS

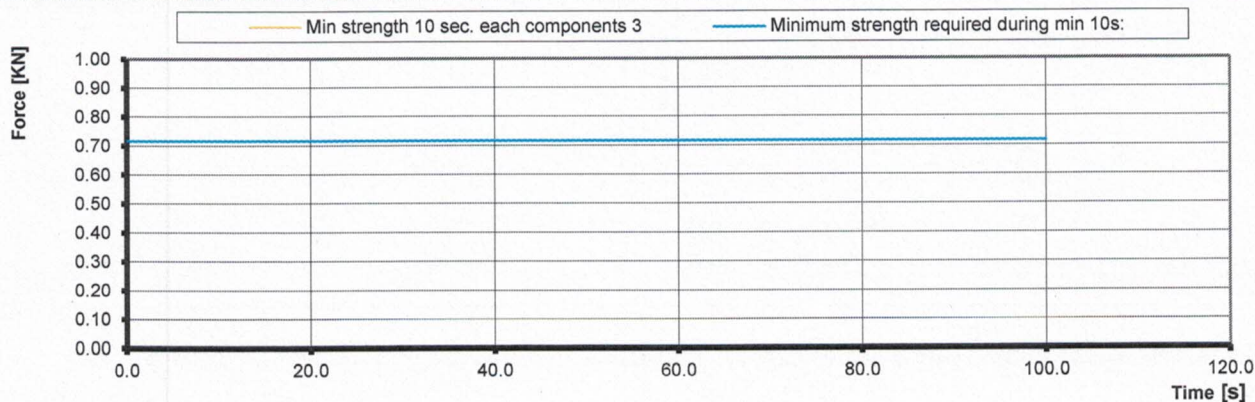
### Min strength 10 sec. each components 1



### 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 Skywac	08.05.2017	JDC elec.	Geos n° 11	22

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

# Speed of opening and descent rate and stability test

TEST REPORT EP 2

EP PARAGLIDERS RESCUE SYSTEMS

Inspection certificate ref. number: EP\_142.2016

## MANUFACTURER DATA

Manufacturer name: Leechute Co. Ltd.  
Representative: Jun Youn Lee  
Street: 103-202, 25#, Gyeongchung-daero  
Post code / place: 1422 beon-gil, Gwangju-si, Gyeonggi-do  
Country: Korea

## SAMPLE DATA

Name: Square  
Size: 100  
Payload [kg]: 100  
Serial number: LCR-SQR151101  
Date of reception: 11.11.2015

## ISSUE DATA

	Test no1	Test no2
Place of tests:	Villeneuve	Villeneuve
Date of tests:	24.11.2015	24.11.2015
Inspectors:	AZ	Claude Thurnheer
Results:	<b>POSITIVE</b>	<b>POSITIVE</b>
Directive:	EN 12491:2001 & 5.3.3 / 5.3.4	

The rescue system is dropped from a paraglider in straight flight at 8 [m/s]  $\pm$  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°]	3.1	3.1
RH [%]	69	64
[hPa]	978.6	982.5
Wind [m/s]	0.9	0.5

## RESULTS EN

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

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

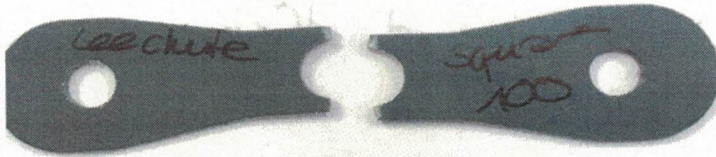
# Speed of opening and descent rate and stability test

TEST REPORT EP 2

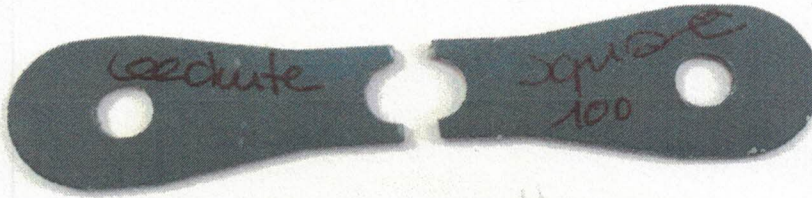
PARAGLIDERS RESCUE SYSTEMS

Inspection certificate ref. number: EP\_142.2016

## 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

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

# Strength test / opening shock

TEST REPORT EP 3

EP PARAGLIDERS RESCUE SYSTEMS

Inspection certificate ref. number: **EP\_142.2016**

## MANUFACTURER DATA

Manufacturer name: **Leechute Co. Ltd.**  
 Representative: **Jun Youn Lee**  
 Street: **103-202, 25#, Gyeongchung-daero**  
 Post code / place: **1422 beon-gil, Gwangju-si, Gyeonggi-do**  
 Country: **Korea**

## SAMPLE DATA

Name: **Square**  
 Size: **100**  
 Payload [kg]: **100**  
 Serial number: **LCR-SQR151101**  
 Date of reception: **11.11.2015**

## ISSUE DATA

	Test no1	Test no2
Place of test:	<b>Illarsaz</b>	<b>Illarsaz</b>
Date of test: 1   2	<b>18.02.2016</b>	<b>18.02.2016</b>
Inspector:	<b>Alain Zoller</b>	<b>Alain Zoller</b>
Results:	<b>POSITIVE</b>	
Directive:	<b>EN 12491:2001 &amp; 5.3.5.1</b>	

### 40 m/s opening shock

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.

- a) in both tests the emergency parachute shall open fully and absorb the opening shock;
- b) in both tests the emergency parachute system shall not suffer any significant failure of the primary structure (except in the case of any shock absorbing device which is intended to be replaced after any deployment);
- c) in the case of a steerable parachute, in both tests, the controls shall remain locked.

## ATMOSPHERE AGL

	Test no1	Test no2
[C°]	<b>1</b>	<b>7</b>
RH [%]	<b>78</b>	<b>60</b>
[hPa]	<b>970.8</b>	<b>970</b>
Wind [m/s]	<b>0.1</b>	<b>0.2</b>

## TEST RESULTS

### 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\_142.2016

## MANUFACTURER DATA

Manufacturer name: Leechute Co. Ltd.  
 Representative Jun Youn Lee  
 Street: 103-202, 25#, Gyeongchung-daero  
 Post code / place: 1422 beon-gil, Gwangju-si, Gyeonggi-do  
 Country: Korea

## SAMPLE DATA

Name: Square  
 Size: 100  
 Payload [kg]: 100  
 Serial number: LCR-SQR151102  
 Date of reception: 11.11.2015

## ISSUE DATA

Place of test: Villeneuve  
 Date of test: 21.12.2015  
 Inspector: Alain Zoller  
 Results: POSITIVE

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

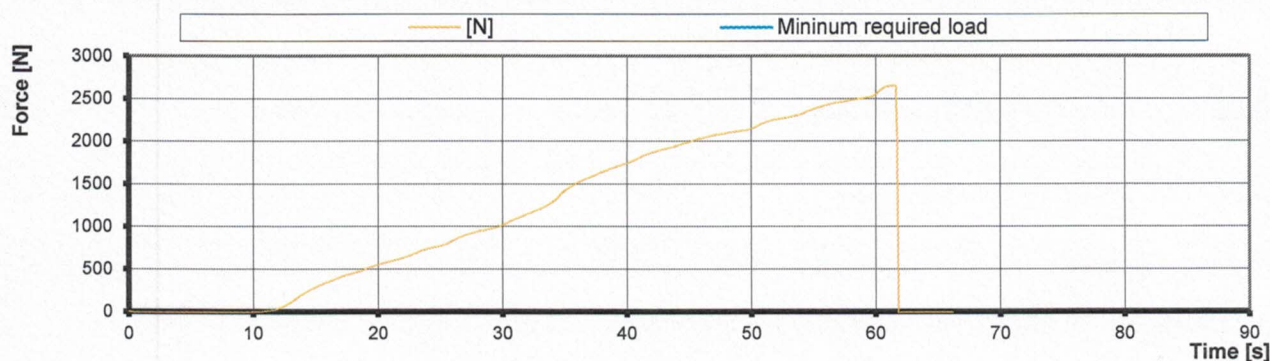
[C°] 21.8  
 RH [%] 42  
 [hPa] 1033.4

## RESULTS [N]

Minimum required load 2400  
 Load capacity 1 2564  
 Uncertainty Uncertainty 95% 42  
**Max Strength 2521.6**

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

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