



EP EMERGENCY PARACHUTE

INSPECTION CERTIFICATE

Inspection certificate number: **EP 137.2016** **UPDATED**

MANUFACTURER DATA

Manufacturer name: **Fluggeräte GmbH**
 Representative: **Josef Gasteiger**
 Street: **Hütte 30**
 Post code / place: **6345 Kössen**
 Country: **Austria**

SAMPLE DATA

Name: **GAMMAcross** Size: **120**
 Type: **Unsteerable** *Payload [kg]: **120**
 Weight [kg]: **1457** *Total weight in flight minus weight of paraglider
 Use: **Single-seater** Volume packed [cm3]: **4760**
 Serial number flight: **16161-16165** Date of reception: **05.11.2015**
 Serial number load: **16161-16164** Date of reception: **01.06.2016**

TEST REPORT SUMMARY

RESULTS

PLACE

DATES

| 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 | 21.01.2016 |
| EP3 Strength test / opening shock | POSITIVE | Illarsaz | 29.06.2016 |
| 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: **01.09.2016**
 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:

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 137.2016**

MANUFACTURER DATA

Manufacturer name: **Fluggeräte GmbH**
Representative: **Josef Gasteiger**
Street: **Hütte 30**
Post code / place: **6345 Kössen**
Country: **Austria**

SAMPLE DATA

Name: **GAMMAcross**
Size: **120**
Payload [kg]: **120**
Serial number: **16161-16164**
Date of reception: **05.11.2015**

ISSUE DATA

Place of test: **Villeneuve**
Date of test: **06.01.2016**
Inspector: **Alain Zoller**
Results: **POSITIVE**
Directive: **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]: **10.10**

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

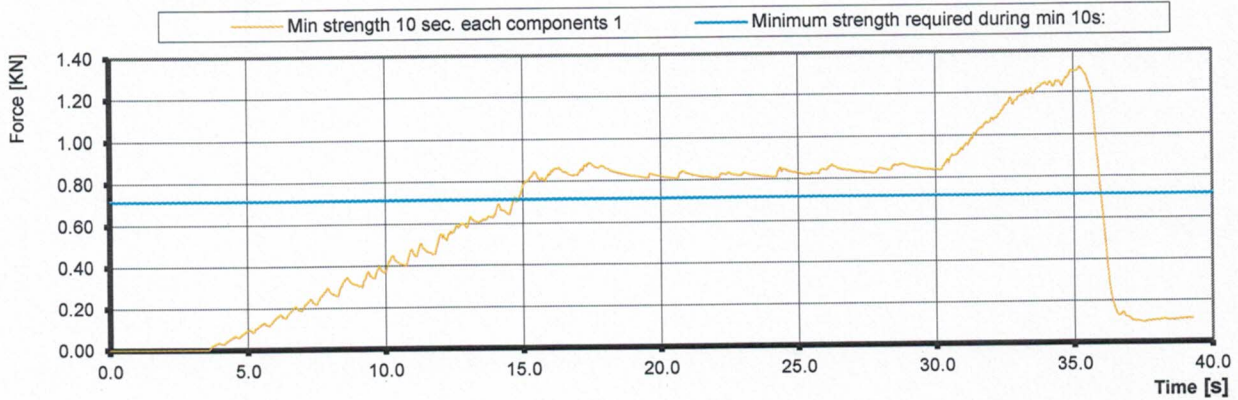
TEST REPORT EP 1

EP PARAGLIDERS RESCUE SYSTEMS

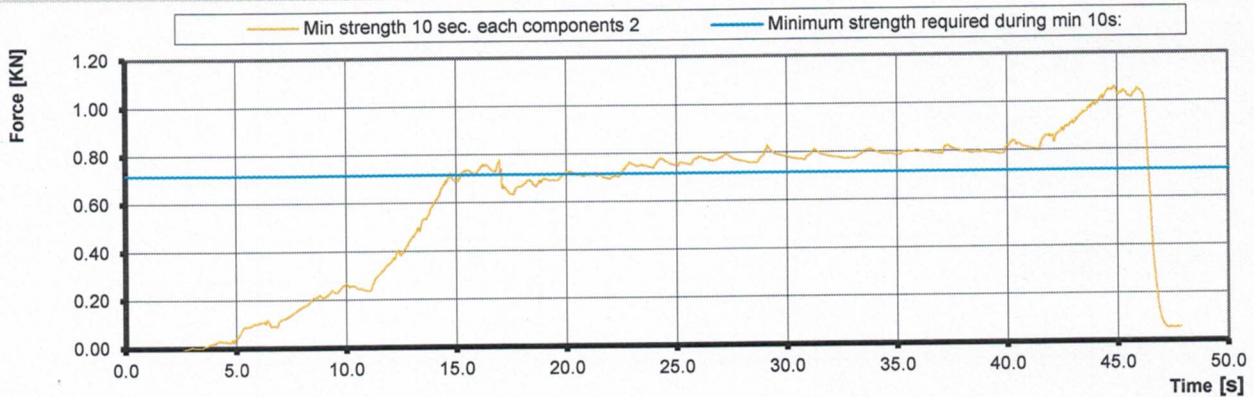
Inspection certificate ref. number: **EP 137.2016**

GRAPHIQUE RESULTS

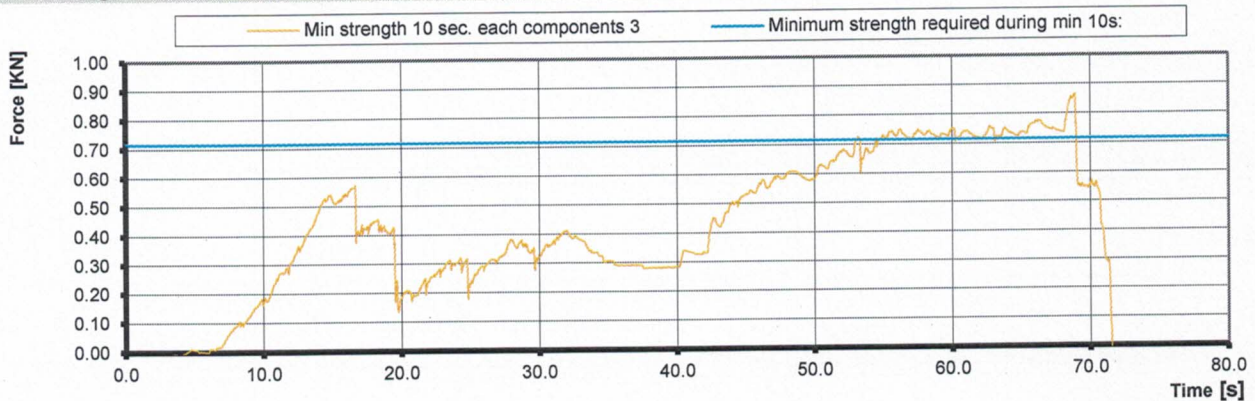
Min strength 10 sec. each components 1



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 137.2016

MANUFACTURER DATA

Manufacturer name: Fluggeräte GmbH
 Representative: Josef Gasteiger
 Street: Hütte 30
 Post code / place: 6345 Kössen
 Country: Austria

SAMPLE DATA

Name: GAMMAcross
 Size: 120
 Payload [kg]: 120
 Serial number: 4760
 Date of reception: 05.11.2015

ISSUE DATA

| | Test no1 | Test no2 |
|-----------------|------------------|--------------|
| Place of tests: | Villeneuve | Villeneuve |
| Date of tests: | 23.11.2015 | 21.01.2016 |
| Inspectors: | Claude Thurnheer | Alain Zoller |
| Results: | POSITIVE | |

Directive: 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°] | 6 | 6 |
| RH [%] | 62 | 64 |
| [hPa] | 976.1 | 982.8 |
| Wind [m/s] | 0.1 | 0.1 |

RESULTS

LTF

| | |
|------------------------------------------------------------------------------------------|----------|
| 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]: | 6.80 |
| 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.

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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 137.2016

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 137.2016

MANUFACTURER DATA

Manufacturer name: Flugggeräte GmbH
 Representative: Josef Gasteiger
 Street: Hütte 30
 Post code / place: 6345 Kössen
 Country: Austria

SAMPLE DATA

Name: GAMMAcross
 Size: 120
 Payload [kg]: 120
 Serial number: 16161-16165
 Date of reception: 01.06.2016

ISSUE DATA

| | Test no1 | Test no2 |
|---------------------|---------------------------|--------------|
| Place of test: | Illarsaz | Illarsaz |
| Date of test: 1 2 | 29.06.2016 | 29.06.2016 |
| Inspector: | Alain Zoller | Alain Zoller |
| Results: | POSITIVE | |
| Directive: | 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 137.2016**

MANUFACTURER DATA

Manufacturer name: **Fluggeräte GmbH**
 Representative: **Josef Gasteiger**
 Street: **Hütte 30**
 Post code / place: **6345 Kössen**
 Country: **Austria**

SAMPLE DATA

Name: **GAMMAcross**
 Size: **120**
 Payload [kg]: **120**
 Serial number: **16161-16164**
 Date of reception: **01.06.2016**

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**

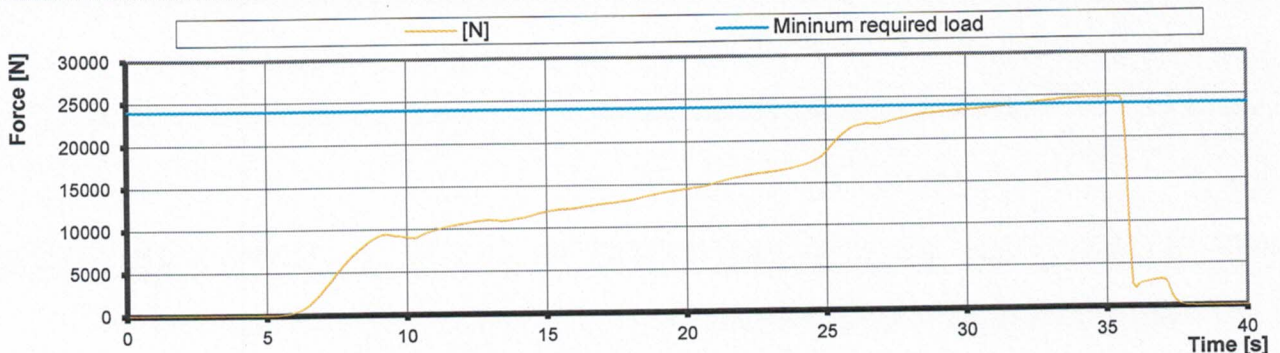
RESULTS [N]

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 |

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