

FAI Category 1 Cross-Country events
2018 Edition | Revision 1.9 | 01.05.2018

ACKNOWLEDGMENT of CONFORMITY

Air Turquoise SA,

**Having thoroughly tested in flight and strength following
CCC regulations**

Manufacturer: **Niviuk Gliders**

Address: **C. Del Ter, 6-Nave D
117165 La Cellera de Ter Girona
Spain**

Glider model: **Icepeak X-One 20**

S/N: **IPXI2220V1**

Conformity number: **CCC_025.2020**
Place of test: **Villeneuve**
Classification: **FAI CCC**

Total weight in flight: **maxi 95 kg**

Date of issue: **12.03.2020**



Randi Eriksen
Director
Air Turquoise SA

Niviuk Gliders – Air games
Carrer del Ter 6 - nave D
17165 La Cellera de Ter -
Girona (Spain)
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www.niviuk.com

CIVL Competition Class 2018 Revision 1.9

NIVIUK paragliders/Air Games acknowledged the conformity of the following wing tested to the CCC 2018 revision 1.9 Standard

Manufacturer : Niviuk Gliders – Air games

Glider Model : Icepeak X-One 20

Serial Number : IPX12220V1

Maximum Permitted weight : 95 kg

Weight range : 80-95 kg

Calculated max weight : 120.600098 Kg

Shock load test (Weak link) : 800 daN (123kg)

Sustained load : 122.78625 kg
(max. load over 3 seconds)

All lines samples >20daN : Yes

Brake line sample >100daN : Yes

Test Laboratory :

Air Turquoise SA / Para-test.com

Route du Pré-Au-Comte 8

1844 Villeneuve, CH

Conformity number : CCC_025.2020

Date : 14/03/2020



Tim Rochas

R&D

Rte de Verbier 15

CH-1934 Villette

T: +33662516703

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CIVL Competition Class 2018 Revision 1.9

NIVIUK paragliders/Air Games acknowledged the conformity of the following wing tested to the CCC 2018 revision 1.9 Standard

Manufacturer : Niviuk Gliders – Air games

Glider Model : Icepeak X-One 22

Serial Number : IPX12222V1

Maximum Permitted weight : 105 kg

Weight range : 90-105 kg

Calculated max weight : 120.600098 Kg

Shock load test (Weak link) : 800 daN (123kg)

Sustained load : 122.78625 kg
(max. load over 3 seconds)

All lines samples >20daN : Yes

Brake line sample >100daN : Yes

Test Laboratory :

Niviuk Paragilders

Route de Verbier 15

1934 Villette, CH

Conformity number : CCC_NK0120

Date : 14/03/2020



Tim Rochas

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CIVL Competition Class 2018 Revision 1.9

NIVIUK paragliders/Air Games acknowledged the conformity of the following wing tested to the CCC 2018 revision 1.9 Standard

Manufacturer : Niviuk Gliders – Air games

Glider Model : Icepeak X-One 24

Serial Number : IPX12224V1

Maximum Permitted weight : 112 kg

Weight range : 98-112 kg

Calculated max weight : 120.600098 Kg

Shock load test (Weak link) : 800 daN (123 kg)

Sustained load : 122.78625 kg
(max. load over 3 seconds)

All lines samples >20daN : Yes

Brake line sample >100daN : Yes

Test Laboratory :

Niviuk Paragilders

Route de Verbier 15

1934 Villette, CH

Conformity number : CCC_NK0220

Date : 14/03/2020



Tim Rochas

R&D

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CIVL Competition Class 2018 Revision 1.9

NIVIUK paragliders/Air Games acknowledged the conformity of the following wing tested to the CCC 2018 revision 1.9 Standard

Manufacturer : Niviuk Gliders – Air games

Glider Model : Icepeak X-One 25

Serial Number : PI410220

Maximum Permitted weight : 120 kg

Weight range : 108-120 kg

Calculated max weight : 120.600098 Kg

Shock load test (Weak link) : 800 daN (123 kg)

Sustained load : 122.78625 kg
(max. load over 3 seconds)

All lines samples >20daN : Yes

Brake line sample >100daN : Yes

Test Laboratory :

Niviuk Paragliders

Route de Verbier 15

1934 Villette, CH

Conformity number : CCC_NK0320

Date : 14/03/2020



Tim Rochas

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CIVL Competition Class 2018 Revision 1.9

NIVIUK paragliders/Air Games acknowledged the conformity of the following wing tested to the CCC 2018 revision 1.9 Standard

Manufacturer : Niviuk Gliders – Air games

Glider Model : Icepeak X-One 26

Serial Number : PI410226

Maximum Permitted weight : 133 kg

Weight range : 118-133 kg

Calculated max weight : 143,207907 Kg

Shock load test (Weak link) : 900 daN (138 kg)

Sustained load : 138.17125 kg
(max. load over 3 seconds)

All lines samples >20daN : Yes

Brake line sample >100daN : Yes

Test Laboratory :

Niviuk Paragilders

Route de Verbier 15

1934 Villette, CH

Conformity number : CCC_NK0420

Date : 14/03/2020



Tim Rochas

R&D

Rte de Verbier 15

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www.niviuk.com

Canopy dimensions REPORT

CCC

st report ref. number: **CCC_025.2020**

Name: Icepeak X-One	Place: Villeneuve	Manufacturer name: Niviuk Gliders
Size: 20	Date of measurement: 12.12.2020	Representative: Dominique Cizeau
Maximum load [kg]: 95	Inspector: Thurnheer Claude	Street: C. Del Ter, 6-Nave D
Serial number: IPXI2220V1		Post code / place: 17165 La Cellera de Ter Girona
Date of reception: 29.01.2020		Country: Spain

Canopy dimensions

	RIB nb from center	Measure mm	Tension	Tolerances
Full Span		12621.4	5 daN	2%
1/2 Trailing Edge		6487.9	5 daN	1%
Chord A	1	2008.3	1 daN	1%
Chord B	25	1746.5	1 daN	1%

Aspect ratio 4*span / (chord A+2.5*Chord B)
7.92

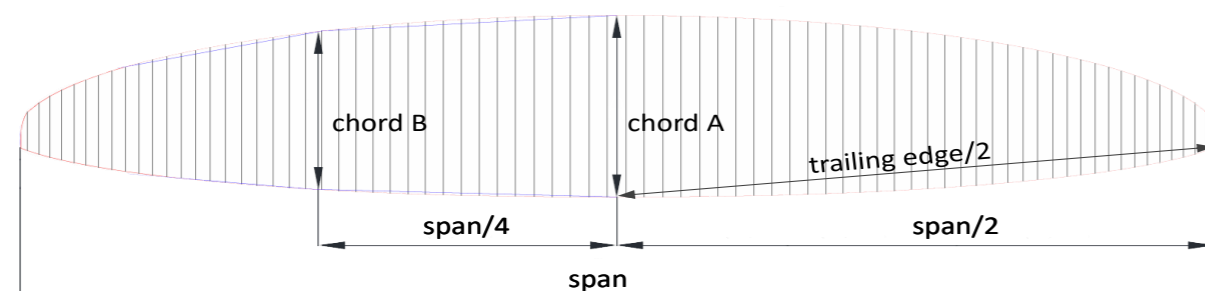
Nbr cells (total)
115

Chord length, inlet position, tabs position measured from trailing edge.

First fully lined RIB of group 1 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	3	1987.6	1 daN	+/-10mm
Top of inlet	3	1915.3	5 daN	+/-10mm
Bottom of inlet	3	1885.4	5 daN	+/-10mm
Tab Aa	3	1728.4	5 daN	+/-10mm
Tab Ab	3	1593.9	5 daN	+/-10mm
Tab B	3	853.9	5 daN	+/-10mm
Tab C	3	640.2	5 daN	+/-10mm

First fully lined RIB of group 2 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	23	1780.9	1 daN	+/-10mm
Top of inlet	23	1707.5	5 daN	+/-10mm
Bottom of inlet	23	1683.1	5 daN	+/-10mm
Tab Aa	23	1544.5	5 daN	+/-10mm
Tab Ab	23	1429.5	5 daN	+/-10mm
Tab B	23	751.1	5 daN	+/-10mm

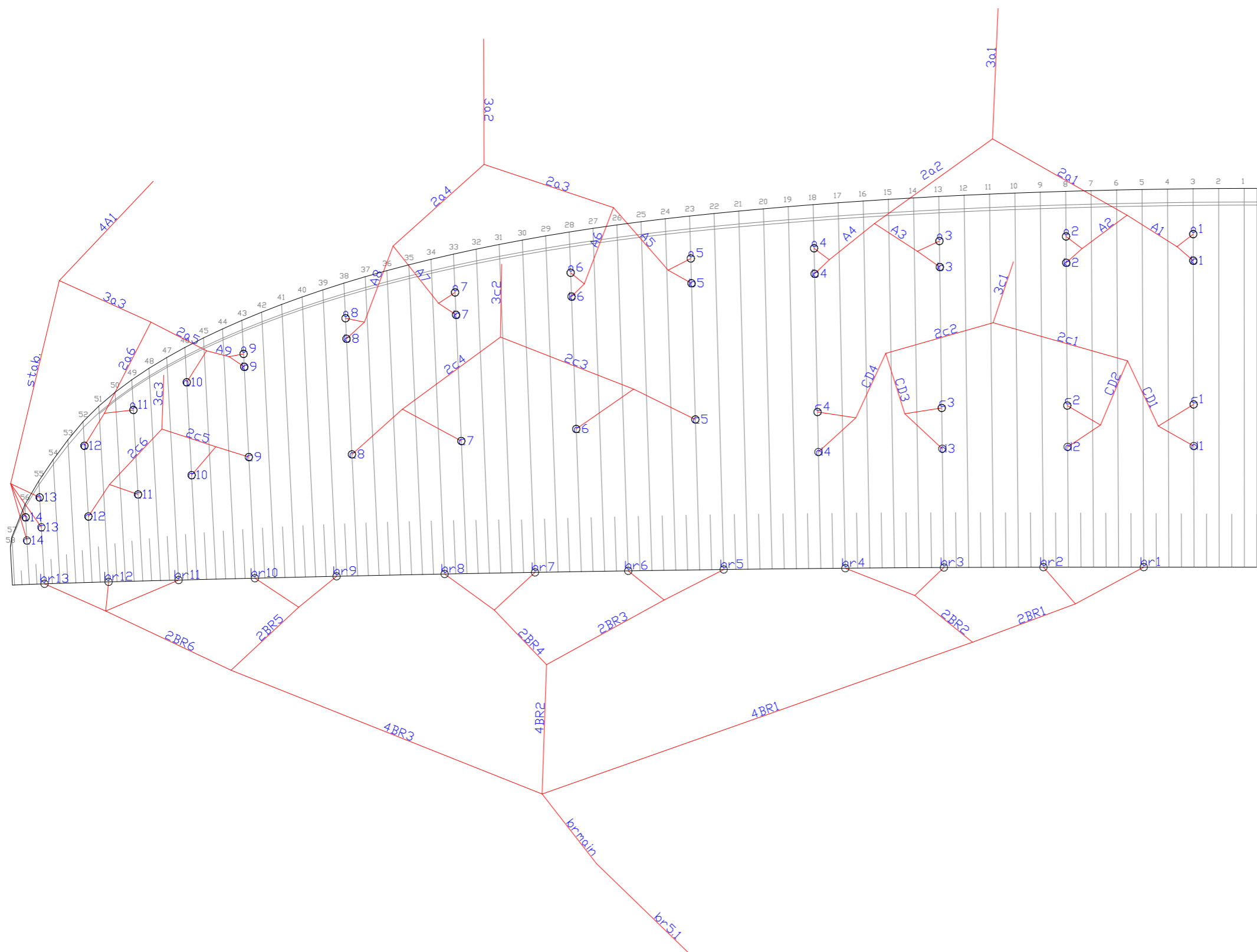
Last lined rib (stabilo) (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	56	508.5	1 daN	+/-10mm
Tab A	56	425.7	5 daN	+/-10mm
Tab B	56	286.1	5 daN	+/-10mm



The validation of this test report is given by the signature of the test manager on the Acknowledgement of conformity

Line plan REPORT

Line plan



The validation of this test report is given by the signature of the test manager on the Acknowledgement of conformity

PG MEASUREMENT REPORT

MEASUREMENT OF FLIGHT TEST SAMPLE

CCC

Report No. : **CCC_025.2020** Sample name: **Icepeak X-One 20** Date measure: **12.02.0202** Place: **Villeneuve**
 Manufacturer: **Niviuk Gliders** S/N: **IPXI2220V1** Responsible: **Claude Thurnheer**

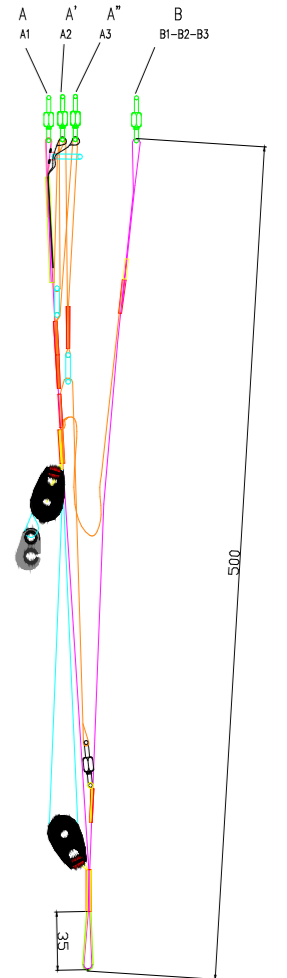
Total line length including risers [mm]

Main brake line with diff color than A,B,C main line? Yes

	A			B			C			D			E			Stab			Brake			+strap
	Manu ⁽²⁾	Sample	Diff	Manu	Sample	Diff	Manu	Sample	Diff	Manu	Sample	Diff	Manu	Sample	Diff	Manu	Sample	Diff	Manu	Sample	Diff	Sample
Center	1	7826	7835	9	7812	7822	9	7825	7826	0	7924	7914	-10						8211	8217	6	
	2	7699	7708	8	7683	7691	8	7665	7667	1	7765	7764	-1						7930	7942	12	
	3	7667	7671	4	7652	7658	6	7635	7630	-5	7732	7721	-11						7734	7739	5	
	4	7710	7718	8	7695	7704	9	7719	7719	0	7810	7804	-6						7735	7737	2	
	5	7605	7611	6	7587	7595	8	7605	7600	-5									7541	7540	-1	
	6	7436	7444	8	7418	7424	6	7418	7418	0									7381	7382	1	
	7	7334	7339	5	7317	7325	8	7333	7331	-2									7320	7321	1	
	8	7317	7319	2	7304	7307	3	7365	7364	-2									7404	7403	-1	
	9	7089	7102	12	7075	7082	7	7113	7112	-2									7289	7291	2	
	10	7007	7014	6				7013	7013	-1									7222	7224	2	
	11	6953	6959	5				6964	6960	-4									7227	7224	-3	
	12	6964	6966	2				6986	6982	-4									7312	7310	-2	
	13	6866	6870	4				6874	6877	3									7511	7507	-4	
Wing tip	14	6857	6864	7				6881	6881	0												
	15																					
	16																					
	17																					
	18																					

Stab line to riser: **A'**

Number Cell: **115**
 Weight of the glider [kg]: **5.90**
 Tolerance [mm] ^(*): **±15**



Riser measurement - total length (inner edge) [mm] ⁽³⁾

Total length (incl. Carabiner or connect)	Risers				Total length (no carabiner or connect)	Risers		
	A	Std	Acc	Trim		A	Std	Acc
	A	522	422	n/a	A	493	393	
	A'	523	442	n/a	A'	494	413	
	B	523	449	n/a	B	494	420	
	C	523	523	n/a	C	494	494	
	D			n/a	D			
	Acc	101	*[mm]		Acc	100	*[mm]	
	Trimmer	n/a	[mm]		Trimmer	n/a	[mm]	

No. of risers **2**
 Tolerance [mm] **5**

Carabiner [mm] **29**
 Tolerance [mm] **2**

*Travel range (distance between A and rear riser)

Acc system configuration max travel

Another trim configuration **No**
 If yes (description):

Test Atmosphere AGL

Pressure [hPa] **981.2**
 Humidity [%] **37**
 Temperature [°C] **21.1**

Plausibility check :

[mm] 500 **500**
 [mm] 10000 **10002**

Remark:

The validation of this test report is given by the signature of the test manager on the Acknowledgement of conformity

Line breaking strength report

Inspection certification number : **CCC_025.2020**
 Manufacturer name: **Niviuk Gliders**
 Model name and size : **Icepeak X-One 20**

kg daN
 Maximum weight: **95** **93.1**

Line specification and line breaking strength in daN (strongest to weakest value) ⁽¹⁾

Line number	Manufacturer	Type no.	Breaking strength (daN)
1	Edelride	8000U-470	491.85
2	Edelride	8000U-360	370.6
3	Edelride	8000U-280	270.1
4	Edelride	8000U-230	243.75
5	Edelride	8000U-190	199.85

Line number	Manufacturer	Type no.	Breaking strength (daN)
6	Edelride	8000U-130	121.75
7	Edelride	8000U-090	97.9
8	Edelride	8000U-070	65.8
9	Edelride	8000U-050	51.6
10	Liros	DC60	71.25
11	Liros	DC40	45.7
12	Liros	DC35	33.9

Line breaking strength, theoretical calculation (see details on the following pages) ⁽³⁾

		daN	g
Sum A+B+C+ Stabilo lines	Level 1	2721.10	29.23
	Level 2	2887.40	31.01
	Level 3	3221.20	34.60
	Level 4	3871.40	41.58
	Level 5	3951.00	42.44

A, B and C, the sum of each level must be equal or exceed 2300daN or 23g

Result **POSITIVE**

Place of inspection: **Villeneuve**
 Date of issue: **10.03.2020**
 Inspector: **Alain Zoller**

Line junction and detailed line strength calculation

Level 1			Level 2			Level 3			Level 4			Level 5								
3a1	8000U-360	370.6	2a1	8000U-190	199.85	A1	8000U-090	97.9	a1	8000U-070	65.8	b1	8000U-050	51.6	a1	8000U-070	65.8			
			A2	8000U-090	97.9	a2	8000U-070	65.8	b2	8000U-050	51.6	a2	8000U-070	65.8						
			A3	8000U-090	97.9	a3	8000U-070	65.8	b3	8000U-050	51.6	a3	8000U-070	65.8						
			2a2	8000U-190	199.85	A4	8000U-090	97.9	a4	8000U-070	65.8	b4	8000U-050	51.6	b3	8000U-050	51.6			
															b4	8000U-050	51.6	b4	8000U-050	51.6
Total:		741.2			799.4			783.2			939.2						939.2			
3a2	8000U-360	370.6	2a3	8000U-190	199.85	A54	8000U-090	97.9	a5	8000U-070	65.8	b5	8000U-050	51.6	a5	8000U-070	65.8			
			A6	8000U-090	97.9	a6	8000U-070	65.8	b6	8000U-050	51.6	a6	8000U-070	65.8						
			A7	8000U-090	97.9	a7	8000U-070	65.8	b7	8000U-050	51.6	a7	8000U-070	65.8						
			2a4	8000U-190	199.85	A8	8000U-090	97.9	a8	8000U-070	65.8	b8	8000U-050	51.6	a8	8000U-070	65.8			
																				b8
Total:		741.2			799.4			783.2			939.2						939.2			
4A1	8000U-130	121.75	2a5	8000U-070	65.8	A9	8000U-050	51.6	a9	DC40	45.7	b9	DC40	45.7	a9	DC40	45.7			
			3a3	8000U-090	97.9	a10	DC40	45.7	a10	DC40	45.7	a10	DC40	45.7						
			2a6	8000U-070	65.8	a11	DC35	33.9	a11	DC35	33.9	a11	DC35	33.9						
						a12	DC35	33.9	a12	DC35	33.9	a12	DC35	33.9						
			stab	8000U-050	51.6	a13	DC35	33.9	a13	DC35	33.9	a13	DC35	33.9						
						a14	DC35	33.9	a14	DC35	33.9	a14	DC35	33.9						
						c13	DC35	33.9	c13	DC35	33.9	c13	DC35	33.9						
			c14	DC35	33.9	c14	DC35	33.9	c14	DC35	33.9									
Total:		243.5			299			534.4			601.4						681			
3c1	8000U-190	199.85	2c1	8000U-090	97.9	CD1	8000U-050	51.6	c1	8000U-050	51.6	c1	8000U-050	51.6	c1	8000U-050	51.6			
			CD2	8000U-050	51.6	d1	DC35	33.9	d1	DC35	33.9	d1	DC35	33.9						
						c2	8000U-050	51.6	c2	8000U-050	51.6	c2	8000U-050	51.6						
						d2	DC35	33.9	d2	DC35	33.9	d2	DC35	33.9						
			2c2	8000U-090	97.9	CD3	8000U-050	51.6	c3	8000U-050	51.6	c3	8000U-050	51.6	c3	8000U-050	51.6			
																	d3	DC35	33.9	
																		d4	DC35	33.9
Total:		399.7			391.6			412.8			684						684			



			c5	8000U-050	51.6	c5	8000U-050	51.6	c5	8000U-050	51.6	
	2c3	8000U-090	97.9									
3c2	8000U-190	199.85		c6	8000U-050	51.6	c6	8000U-050	51.6	c6	8000U-050	51.6
				c7	8000U-050	51.6	c7	8000U-050	51.6	c7	8000U-050	51.6
	2c4	8000U-090	97.9									
				c8	8000U-050	51.6	c8	8000U-050	51.6	c8	8000U-050	51.6
Total:		399.7	391.6			412.8			412.8		412.8	
				c9	DC40	45.7	c9	DC40	45.7	c9	DC40	45.7
	2c5	8000U-050	51.6									
3c3	8000U-090	97.9		c10	DC35	33.9	c10	DC35	33.9	c10	DC35	33.9
				c11	DC35	33.9	c11	DC35	33.9	c11	DC35	33.9
	2c6	8000U-050	51.6									
				c12	DC35	33.9	c12	DC35	33.9	c12	DC35	33.9
Total:		195.8	206.4			294.8			294.8		294.8	

Canopy dimensions REPORT

Test report ref. number: CCC-NK0120

Name: **Icepeak X-One** Place: **Le Chables**
 Size: **22** Date of measurement: **10.03.2020**
 Maximum load [kg]: **105** Inspector: **Tim Rochas**
 Serial number: **IPXI2222V1**

Manufacturer name: **Niviuk gliders / Air Games**

Paragliders permitted in FAI Category 1 Cross-Country events 2018 Edition Revision 1,9

Street: **Carrer del Ter 6 - nave D**
 Post code / place: **17165 La Cellera de Ter - Girona**
 Country: **(Spain)**
 Tel: **+34 972 422 878**

Canopy dimensions

	RIB nb from center	Measure mm	Tension	Tolerances
Full Span		13126	5 daN	2%
1/2 Trailing Edge		6723.5	5 daN	1%
Chord A	1	2087.3	1 daN	1%
Chord B	25	1818.2	1 daN	1%

Aspect ratio
4*span / (chord A+2.5*Chord B)
7.92

Nbr cells (total)
115

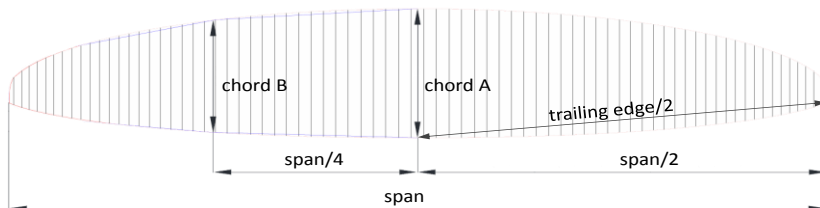
Scale factor / size 20
1.0454

Chord length, inlet position, tabs position measured from trailing edge.

First fully lined RIB of group 1 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	3	2073.4	1 daN	+/-10mm
Top of inlet	3	1992.5	5 daN	+/-10mm
Bottom of inlet	3	1970.3	5 daN	+/-10mm
Tab Aa	3	1809.9	5 daN	+/-10mm
Tab Ab	3	1664.4	5 daN	+/-10mm
Tab B	3	886.3	5 daN	+/-10mm
Tab C	3	669.7	5 daN	+/-10mm

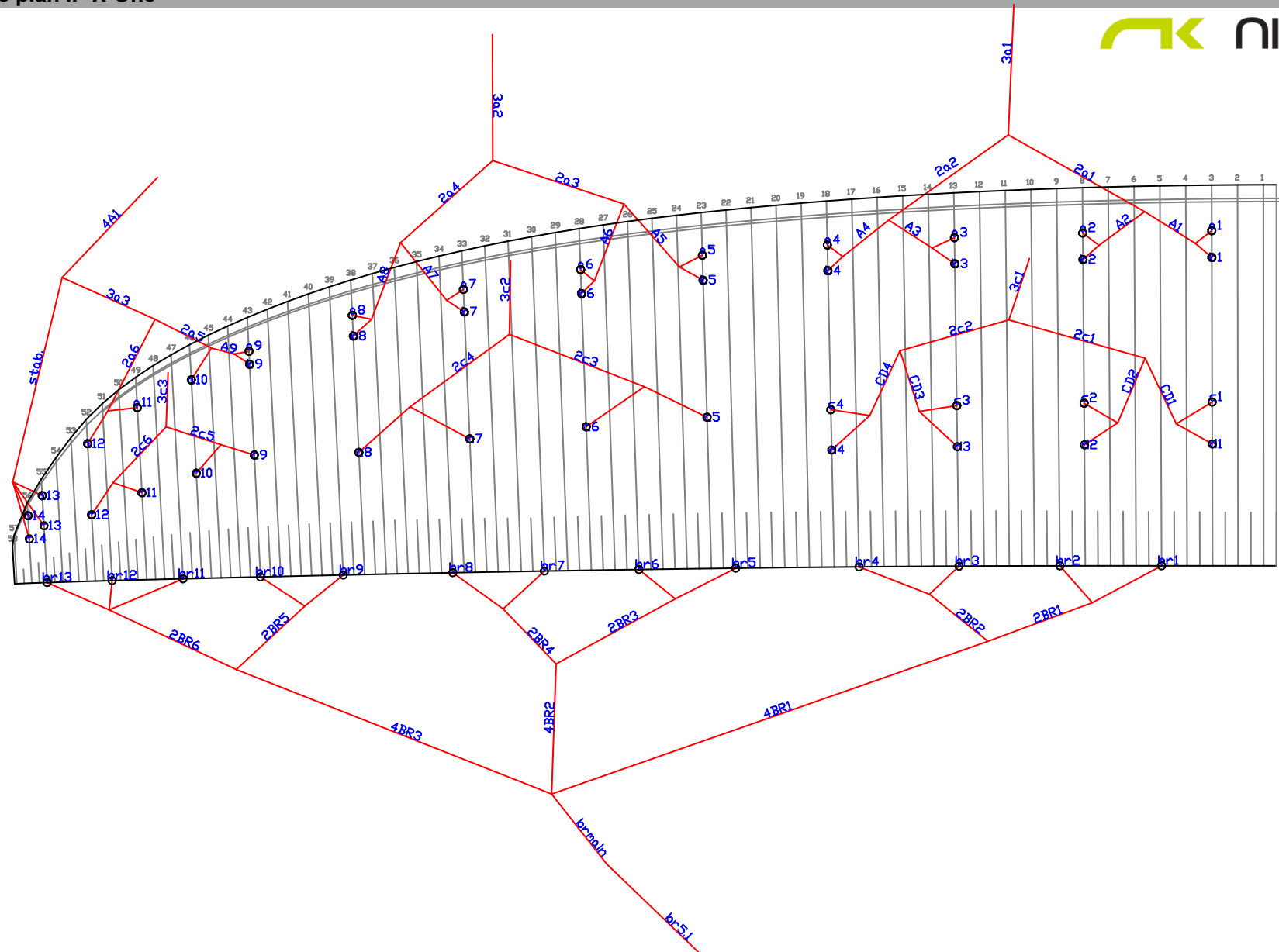
First fully lined RIB of group 2 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	23	1860.2	1 daN	+/-10mm
Top of inlet	23	1786.4	5 daN	+/-10mm
Bottom of inlet	23	1769.5	5 daN	+/-10mm
Tab Aa	23	1620.5	5 daN	+/-10mm
Tab Ab	23	1494.2	5 daN	+/-10mm
Tab B	23	796.1	5 daN	+/-10mm

Last lined rib (stabilo) (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	56	535.9	1 daN	+/-10mm
Tab A	56	444	5 daN	+/-10mm
Tab B	56	302.5	5 daN	+/-10mm



Span /2 6563
 Span /4 3281.5

Line plan IP X-One





Manufacture: **Niviuk gliders**
 Glider: **Icepeak X-One 22**

S/N: **IPXI2222V1**

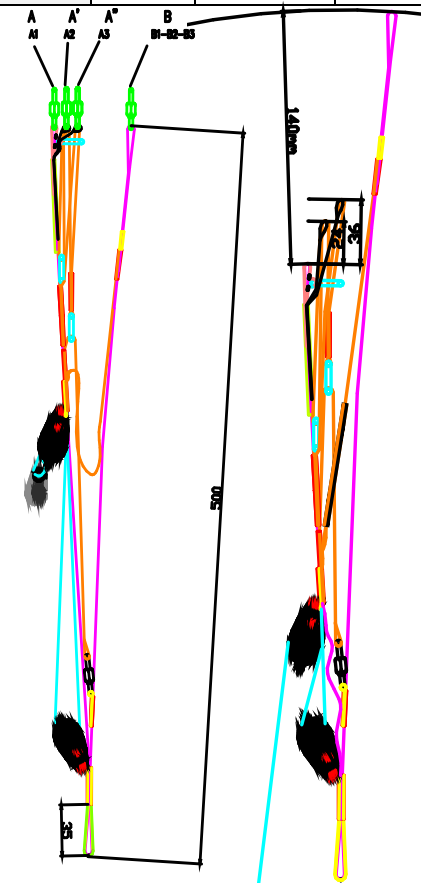
Done by: **Tim Rochas**

date: **10.03.2020**

Line measurement

Lines measurements with risers in mm under 5kg (from wing to bottom of risers)

Name	Manual	Sample mesured	Dif	Name	Manual	Sample mesured	Dif	Name	Manual	Sample mesured	Dif	Name	Manual	Sample mesured	Dif
a1	8150	8151	0	b1	8137	8138	1	c1	8151	8150	-2	d1	8252	8251	-1
a2	8020	8021	1	b2	8004	8006	2	c2	7984	7981	-3	d2	8087	8082	-5
a3	7988	7990	2	b3	7973	7977	3	c3	7953	7948	-6	d3	8054	8047	-8
a4	8035	8036	1	b4	8020	8022	2	c4	8042	8034	-8	d4	8136	8127	-9
a5	7925	7922	-3	b5	7907	7904	-3	c5	7926	7919	-7				
a6	7750	7750	0	b6	7732	7733	1	c6	7731	7729	-3				
a7	7645	7647	2	b7	7628	7632	4	c7	7642	7639	-3				
a8	7628	7628	0	b8	7615	7614	-1	c8	7676	7673	-4				
a9	7390	7399	9	b9	7375	7380	5	c9	7415	7423	7				
a10	7305	7312	7					c10	7311	7320	8				
a11	7249	7258	9					c12	7260	7267	6				
a12	7261	7268	7					c13	7282	7286	4				
a13	7158	7160	1					c13	7167	7172	4				
a14	7149	7152	2					c14	7173	7179	6				



Risers measurements with carabiner in mm under 5kg (from bottom of risers to bottom of lines)

Risers Manual	
Position 1 (neutral)	
A	521
A'	522
A''	523
B	524
Δtrim (A-B)	-3
Position accélérée	
A	372
A'	396
A''	407
B	516
Δaccel (B-A)	144
Total speed range	141

Canopy dimensions REPORT

Test report ref. number: CCC-NK0220

Name: **Icepeak X-One** Place: **Le Chables**
 Size: **24** Date of measurement: **10.03.2020**
 Maximum load [kg]: **112** Inspector: **Tim Rochas**
 Serial number: **IPXI2224V1**

Manufacturer name: **Niviuk gliders / Air Games**

Paragliders permitted in FAI Category 1 Cross-Country events 2018 Edition Revision 1,9

Street: **Carrer del Ter 6 - nave D**
 Post code / place: **17165 La Cellera de Ter - Girona**
 Country: **(Spain)**
 Tel: **+34 972 422 878**

Canopy dimensions

	RIB nb from center	Measure mm	Tension	Tolerances
Full Span		13519.4	5 daN	2%
1/2 Trailing Edge		6931.4	5 daN	1%
Chord A	1	2153	1 daN	1%
Chord B	25	1870.8	1 daN	1%

Aspect ratio
4*span / (chord A+2.5*Chord B)
7.92

Nbr cells (total)
115

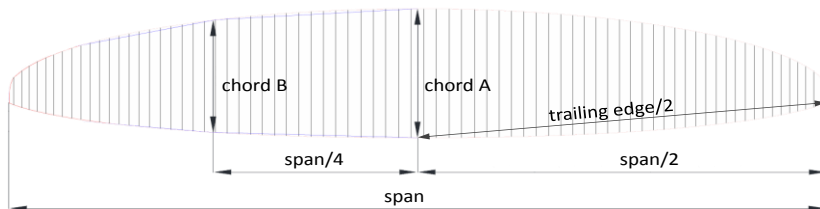
Scale factor / size 20
1.0787

Chord lenght, inlet position, tabs position measured from trailing edge.

First fully lined RIB of group 1 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	3	2130.5	1 daN	+/-10mm
Top of inlet	3	2051.2	5 daN	+/-10mm
Bottom of inlet	3	2032.9	5 daN	+/-10mm
Tab Aa	3	1858.3	5 daN	+/-10mm
Tab Ab	3	1716.2	5 daN	+/-10mm
Tab B	3	920.9	5 daN	+/-10mm
Tab C	3	688.8	5 daN	+/-10mm

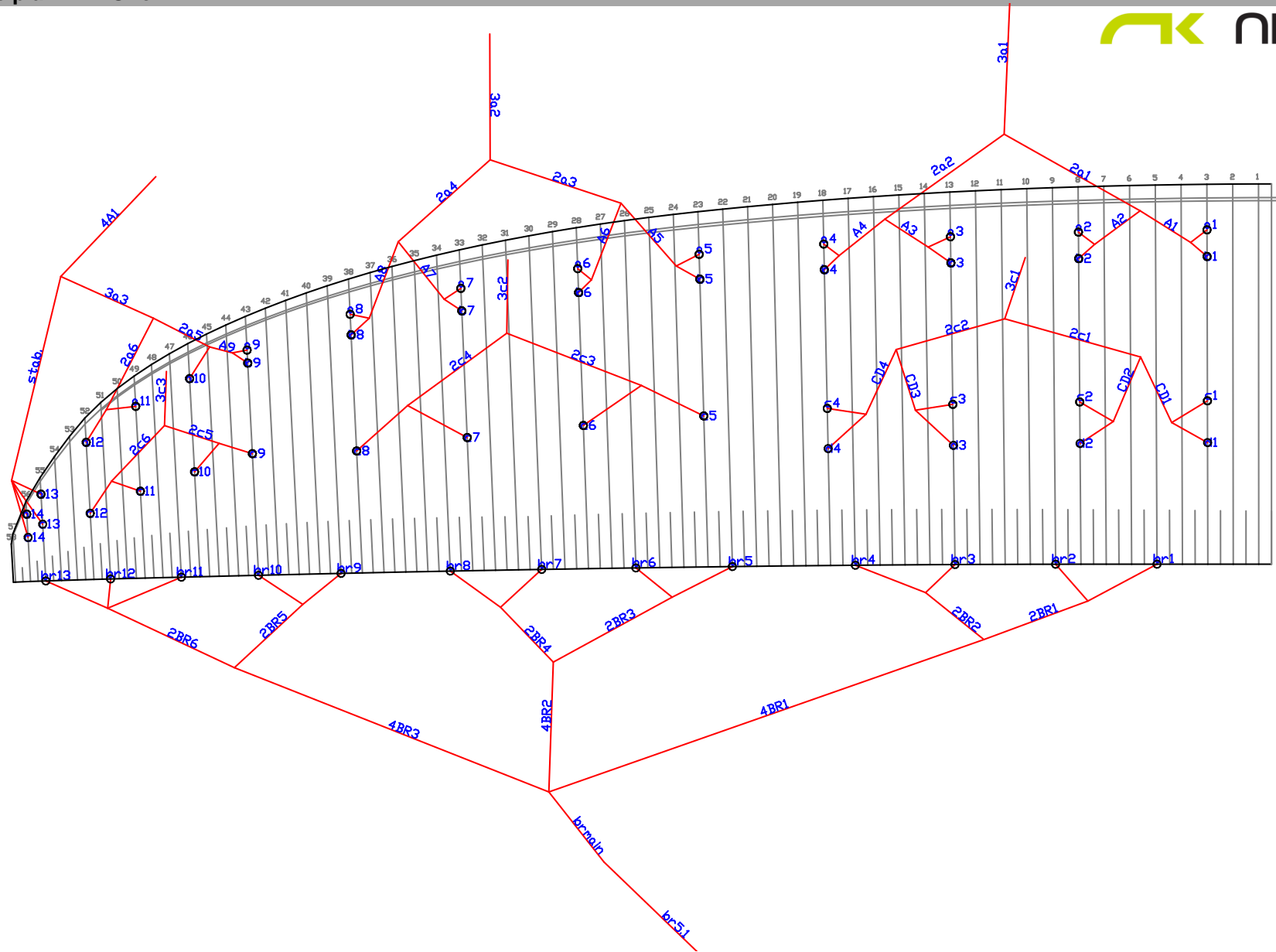
First fully lined RIB of group 2 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	23	1915.7	1 daN	+/-10mm
Top of inlet	23	1840.9	5 daN	+/-10mm
Bottom of inlet	23	1820.6	5 daN	+/-10mm
Tab Aa	23	1673.2	5 daN	+/-10mm
Tab Ab	23	1538.5	5 daN	+/-10mm
Tab B	23	815.4	5 daN	+/-10mm

Last lined rib (stabilo) (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	56	548.8	1 daN	+/-10mm
Tab A	56	464.7	5 daN	+/-10mm
Tab B	56	314.2	5 daN	+/-10mm



Span /2 6759.7
 Span /4 3379.85

Line plan IP X-One





Manufacture **Niviuk gliders**
 Glider: **Icepeak X-One 24**

S/N: **IPXI2224V1**

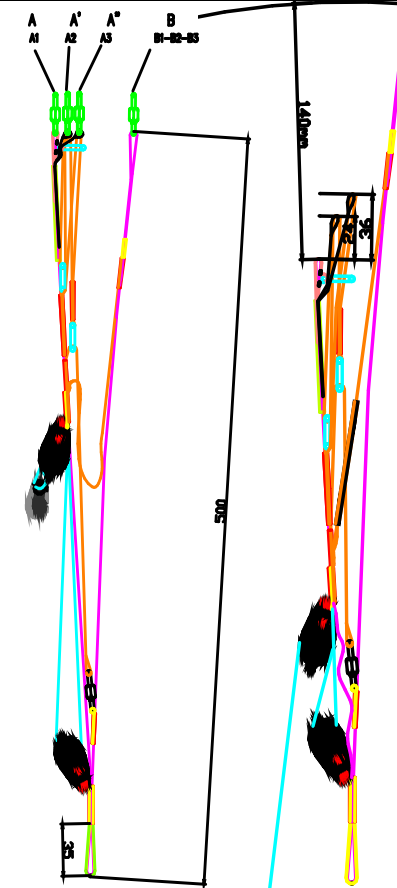
Done by: **Tim Rochas**

date: **10.03.2020**

Line measurement

Lines measurements with risers in mm under 5kg (from wing to bottom of risers)

Name	Manual	Sample measured	Dif	Name	Manual	Sample measured	Dif	Name	Manual	Sample measured	Dif	Name	Manual	Sample measured	Dif
a1	8390	8393	3	b1	8372	8375	3	c1	8390	8391	1	d1	8494	8495	1
a2	8255	8259	4	b2	8235	8240	5	c2	8219	8222	3	d2	8324	8321	-3
a3	8224	8227	3	b3	8205	8208	3	c3	8189	8188	-1	d3	8292	8293	1
a4	8273	8280	7	b4	8254	8259	5	c4	8282	8276	-6	d4	8378	8375	-3
a5	8161	8168	7	b5	8139	8147	8	c5	8161	8165	4				
a6	7982	7990	8	b6	7960	7968	8	c6	7962	7966	4				
a7	7875	7881	6	b7	7853	7858	5	c7	7871	7876	5				
a8	7857	7860	3	b8	7841	7842	1	c8	7906	7907	1				
a9	7611	7617	6	b9	7596	7601	5	c9	7638	7640	2				
a10	7524	7534	10					c10	7530	7537	7				
a11	7466	7475	9					c11	7478	7486	8				
a12	7479	7487	8					c12	7501	7504	3				
a13	7373	7382	9					c13	7382	7386	4				
a14	7363	7369	6					c14	7388	7395	7				



Risers measurements with carabiner in mm under 5kg (from bottom of risers to bottom of lines)

Risers Manual	
Position 1 (neutral)	
A	521
A'	522
A''	523
B	524
Δtrim (A-B)	-3
Position accélérée	
A	372
A'	396
A''	407
B	516
Δaccel (B-A)	144
Total speed range	141

Canopy dimensions REPORT

Test report ref. number: CCC-NK0320

Name: **Icepeak X-One** Place: **Le Chables**
 Size: **25** Date of measurement: **10.03.2020**
 Maximum load [kg]: **120** Inspector: **Tim Rochas**
 Serial number: **PI410220**

Manufacturer name: **Niviuk gliders / Air Games**

Paragliders permitted in FAI Category 1 Cross-Country events 2018 Edition Revision 1,9

Street: **Carrer del Ter 6 - nave D**
 Post code / place: **17165 La Celler de Ter - Girona**
 Country: **(Spain)**
 Tel: **+34 972 422 878**

Canopy dimensions

	RIB nb from center	Measure mm	Tension	Tolerances
Full Span		14075	5 daN	2%
1/2 Trailing Edge		7205	5 daN	1%
Chord A	1	2220	1 daN	1%
Chord B	25	1940	1 daN	1%

Aspect ratio
4*span / (chord A+2.5*Chord B)
7.96

Nbr cells (total)
115

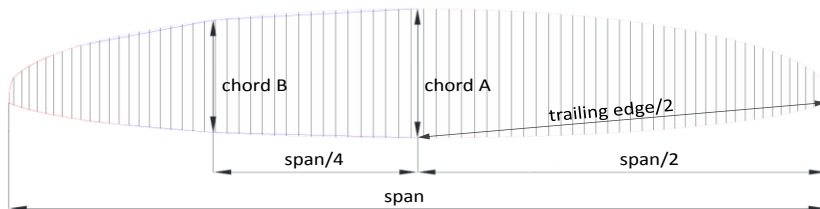
Scale factor / size 20
1.1185

Chord lenght, inlet position, tabs position measured from trailing edge.

First fully lined RIB of group 1 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	3	2201	1 daN	+/-10mm
Top of inlet	3	2119	5 daN	+/-10mm
Bottom of inlet	3	2100	5 daN	+/-10mm
Tab Aa	3	1925	5 daN	+/-10mm
Tab Ab	3	1774	5 daN	+/-10mm
Tab B	3	947	5 daN	+/-10mm
Tab C	3	713	5 daN	+/-10mm

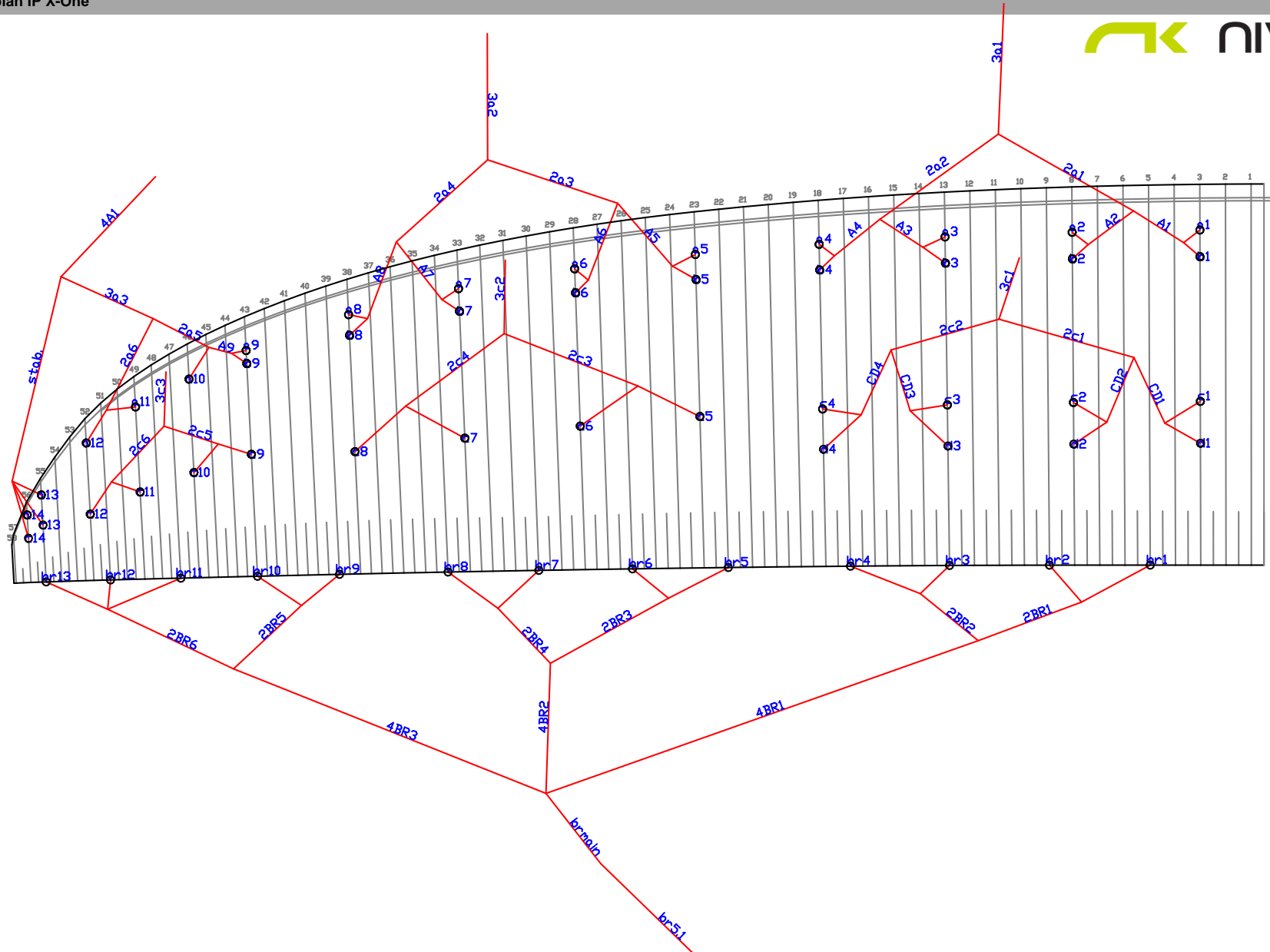
First fully lined RIB of group 2 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	23	1961	1 daN	+/-10mm
Top of inlet	23	1895	5 daN	+/-10mm
Bottom of inlet	23	1882	5 daN	+/-10mm
Tab Aa	23	1720	5 daN	+/-10mm
Tab Ab	23	1591	5 daN	+/-10mm
Tab B	23	838	5 daN	+/-10mm

Last lined rib (stabilo) (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	56	571	1 daN	+/-10mm
Tab A	56	478	5 daN	+/-10mm
Tab B	56	326	5 daN	+/-10mm



Span /2 7037.5
 Span /4 3518.75

Line plan IP X-One





Manufacture: **Niviuk gliders**
 Glider: **Icepeak X-One 25**

S/N: **PI410220**

Done by: **Tim Rochas**

date: **10.03.2020**

Line measurement

Lines measurements with risers in mm under 5kg (from wing to bottom of risers)

Name	Manual	Sample mesured	Dif	Name	Manual	Sample mesured	Dif	Name	Manual	Sample mesured	Dif	Name	Manual	Sample mesured	Dif
a1	8676	8679	3	b1	8654	8655	0	c1	8676	8672	-5	d1	8783	8780	-3
a2	8539	8545	6	b2	8514	8521	7	c2	8501	8500	-2	d2	8609	8610	0
a3	8507	8510	2	b3	8483	8487	3	c3	8471	8469	-2	d3	8576	8578	1
a4	8559	8564	5	b4	8536	8537	0	c4	8568	8566	-3	d4	8667	8666	-1
a5	8445	8451	6	b5	8418	8422	4	c5	8444	8446	1				
a6	8259	8268	9	b6	8232	8240	8	c6	8238	8243	5				
a7	8149	8157	8	b7	8123	8132	9	c7	8144	8149	5				
a8	8132	8134	2	b8	8110	8114	4	c8	8182	8186	4				
a9	7877	7879	2	b9	7861	7867	5	c9	7902	7907	5				
a10	7786	7795	9					c10	7790	7796	6				
a11	7728	7737	9					c12	7737	7743	6				
a12	7741	7746	5					c13	7761	7762	1				
a13	7629	7630	1					c13	7638	7644	5				
a14	7619	7621	2					c14	7645	7647	2				



Risers measurements with carabiner in mm under 5kg (from bottom of risers to bottom of lines)

Risers Manual	
Position 1 (neutral)	
A	521
A'	522
A''	523
B	524
Δtrim (A-B)	-3
Position accélérée	
A	372
A'	396
A''	407
B	516
Δaccel (B-A)	144
Total speed range	141

Canopy dimensions REPORT

Test report ref. number: CCC-NK0420

Name: **Icepeak X-One** Place: **Le Chables** Manufacturer name: **Niviuk gliders / Air Games** Paragliders permitted in FAI Category 1 Cross-Country events 2018 Edition Revision 1,9
 Size: **26** Date of measurement: **10.03.2020**
 Maximum load [kg]: **133** Inspector: **Tim Rochas** Street: **Carrer del Ter 6 - nave D**
 Serial number: **PI410226** Post code / place: **17165 La Cellera de Ter - Girona**
 Country: **(Spain)**
 Tel: **T: +34 972 422 878**

Canopy dimensions

	RIB nb from center	Measure mm	Tension	Tolerances
Full Span		14510	5 daN	2%
1/2 Trailing Edge		7463	5 daN	1%
Chord A	1	2284	1 daN	1%
Chord B	25	1999	1 daN	1%

Aspect ratio
4*span / (chord A+2.5*Chord B)
7.97

Nbr cells (total)
115

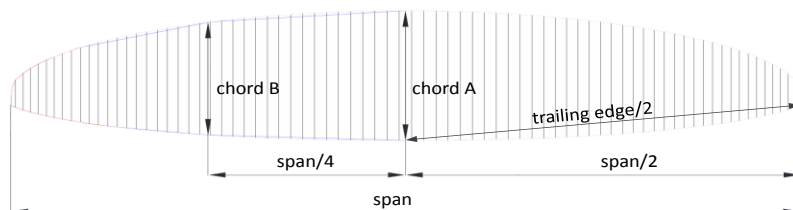
Scale factor / size 20
1.162

Chord length, inlet position, tabs position measured from trailing edge.

First fully lined RIB of group 1 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	3	2273	1 daN	+/-10mm
Top of inlet	3	2189	5 daN	+/-10mm
Bottom of inlet	3	2171	5 daN	+/-10mm
Tab Aa	3	1990	5 daN	+/-10mm
Tab Ab	3	1838	5 daN	+/-10mm
Tab B	3	976	5 daN	+/-10mm
Tab C	3	740	5 daN	+/-10mm

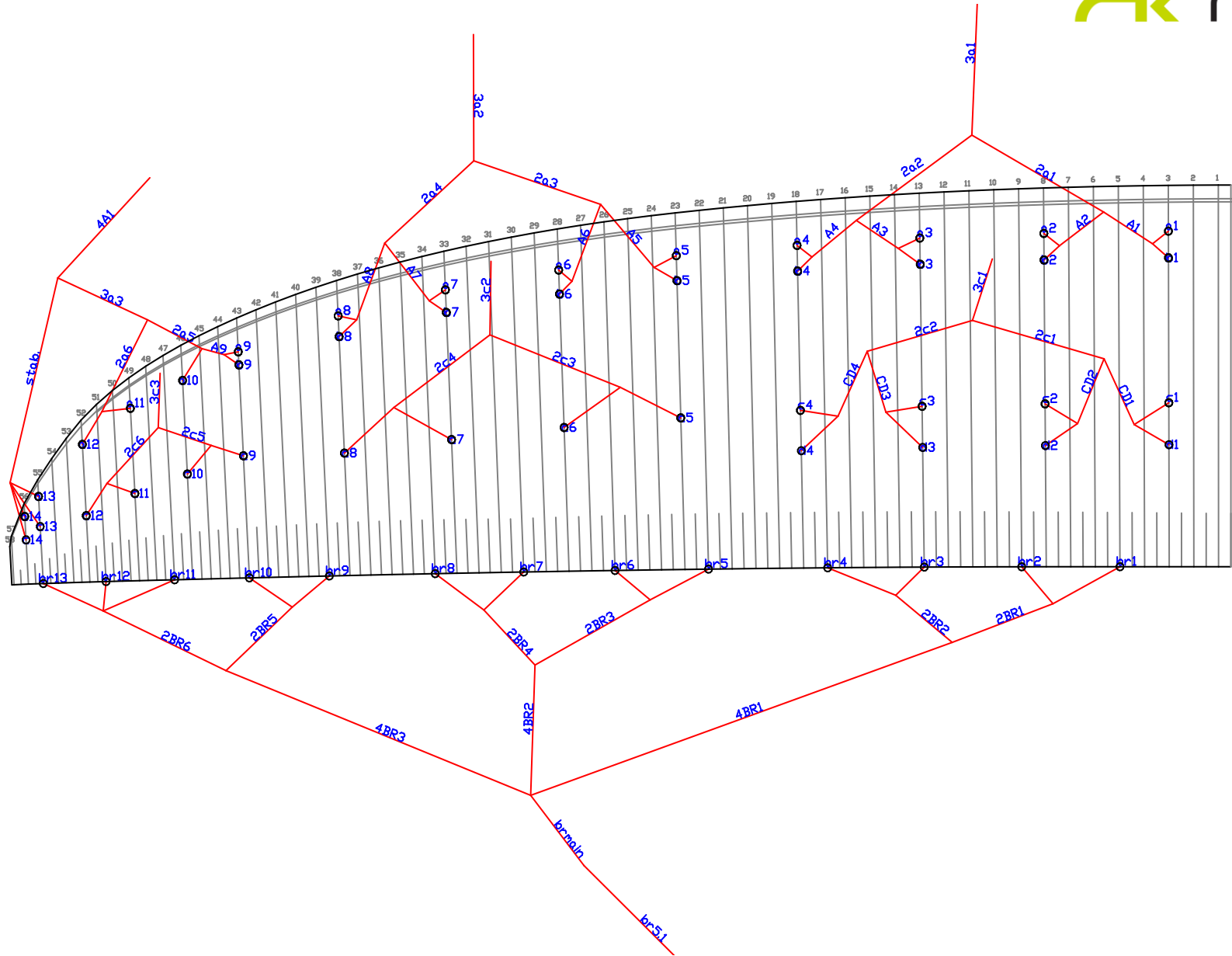
First fully lined RIB of group 2 (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	23	2023	1 daN	+/-10mm
Top of inlet	23	1961	5 daN	+/-10mm
Bottom of in	23	1948	5 daN	+/-10mm
Tab Aa	23	1785	5 daN	+/-10mm
Tab Ab	23	1642	5 daN	+/-10mm
Tab B	23	863	5 daN	+/-10mm

Last lined rib (stabilo) (from center)				
	Rib n°	Distance	Tension	Tolerances
Chord	56	590	1 daN	+/-10mm
Tab A	56	490	5 daN	+/-10mm
Tab B	56	331	5 daN	+/-10mm



Span /2 7255
 Span /4 3627.5

Line plan IP X-One





Manufacturer: **Niviuk gliders**
 Glider: **Icepeak X-One 26**

S/N: **PI410226**

Done by: **Tim Rochas**

date: **10.03.2020**

Line measurement

Lines measurements with risers in mm under 5kg (from wing to bottom of risers)

Name	Manual	Simple mesure	Dif	Name	Manual	Simple mesure	Dif	Name	Manual	Simple mesure	Dif	Name	Manual	Simple mesure	Dif
a1	8989	8990	1	b1	8966	8967	1	c1	8989	8995	6	d1	9098	9099	1
a2	8849	8850	1	b2	8824	8827	3	c2	8808	8815	7	d2	8919	8923	4
a3	8817	8819	2	b3	8793	8796	3	c3	8778	8785	7	d3	8886	8891	5
a4	8871	8874	3	b4	8850	8855	5	c4	8879	8878	-1	d4	8980	8981	1
a5	8764	8755	-9	b5	8737	8733	-4	c5	8751	8752	1				
a6	8567	8567	0	b6	8540	8543	3	c6	8538	8543	5				
a7	8447	8449	2	b7	8421	8422	1	c7	8441	8442	1				
a8	8418	8422	4	b8	8398	8408	10	c8	8480	8479	-1				
a9	8170	8166	-4	b9	8154	8154	0	c9	8195	8191	-4				
a10	8077	8079	2					c10	8080	8080	0				
a11	8015	8016	1					c12	8024	8023	-1				
a12	8029	8030	1					c13	8049	8047	-2				
a13	7910	7911	1					c13	7918	7920	2				
a14	7899	7900	1					c14	7925	7929	4				



Risers measurements with carabiner in mm under 5kg (from bottom of risers to bottom of lines)

Risers Manual	
Position 1 (neutral)	
A	521
A'	522
A''	523
B	524
Δtrim (A-B)	-3
Position accélérée	
A	372
A'	396
A''	407
B	516
Δaccel (B-A)	144
Total speed range	141

Load Calculation for Icepeak X-One sizes 20-22-24-25



IP X-One small size: Total strength		Strength daN	Level	Level 1	Level 2	Level 3	Level 4	Level 5		
a1	8000U-070	65.8	4	0	0	0	131.6	131.6		
a2	8000U-070	65.8	4	0	0	0	131.6	131.6		
a3	8000U-070	65.8	4	0	0	0	131.6	131.6		
a4	8000U-070	65.8	4	0	0	0	131.6	131.6		
a5	8000U-070	65.8	4	0	0	0	131.6	131.6		
a6	8000U-070	65.8	4	0	0	0	131.6	131.6		
a7	8000U-070	65.8	4	0	0	0	131.6	131.6		
a8	8000U-070	65.8	4	0	0	0	131.6	131.6		
a9	DC 40	45.7	5	0	0	0	0	91.4		
a10	DC 40	45.7	4	0	0	0	91.4	91.4		
a11	DC 35	33.9	4	0	0	0	67.8	67.8		
a12	DC 35	33.9	4	0	0	0	67.8	67.8		
a13	DC 35	33.9	3	0	0	67.8	67.8	67.8		
a14	DC 35	33.9	3	0	0	67.8	67.8	67.8		
A1	8000U-090	97.9	3	0	0	195.8	0	0		
A2	8000U-090	97.9	3	0	0	195.8	0	0		
A3	8000U-090	97.9	3	0	0	195.8	0	0		
A4	8000U-090	97.9	3	0	0	195.8	0	0		
A5	8000U-090	97.9	3	0	0	195.8	0	0		
A6	8000U-090	97.9	3	0	0	195.8	0	0		
A7	8000U-090	97.9	3	0	0	195.8	0	0		
A8	8000U-090	97.9	3	0	0	195.8	0	0		
A9	8000U-050	51.6	4	0	0	0	103.2	0		
2a1	8000U-190	199.85	2	0	399.7	0	0	0		
2a2	8000U-190	199.85	2	0	399.7	0	0	0		
2a3	8000U-190	199.85	2	0	399.7	0	0	0		
2a4	8000U-190	199.85	2	0	399.7	0	0	0		
2a5	8000U-070	65.8	3	0	0	131.6	0	0		
2a6	8000U-070	65.8	3	0	0	131.6	0	0		
3a1	8000U-360	370.6	1	741.2	0	0	0	0		
3a2	8000U-360	370.6	1	741.2	0	0	0	0		
3a3	8000U-090	97.9	2	0	195.8	0	0	0		
4A1	8000U-130	121.75	1	243.5	0	0	0	0		
b1	8000U-050	51.6	4	0	0	0	103.2	103.2		
b2	8000U-050	51.6	4	0	0	0	103.2	103.2		
b3	8000U-050	51.6	4	0	0	0	103.2	103.2		
b4	8000U-050	51.6	4	0	0	0	103.2	103.2		
b5	8000U-050	51.6	4	0	0	0	103.2	103.2		
b6	8000U-050	51.6	4	0	0	0	103.2	103.2		
b7	8000U-050	51.6	4	0	0	0	103.2	103.2		
b8	8000U-050	51.6	4	0	0	0	103.2	103.2		
b9	DC 40	45.7	5	0	0	0	0	91.4		
c1	8000U-050	51.6	4	0	0	0	103.2	103.2		
c2	8000U-050	51.6	4	0	0	0	103.2	103.2		
c3	8000U-050	51.6	4	0	0	0	103.2	103.2		
c4	8000U-050	51.6	4	0	0	0	103.2	103.2		
c5	8000U-050	51.6	3	0	0	103.2	103.2	103.2		
c6	8000U-050	51.6	3	0	0	103.2	103.2	103.2		
c7	8000U-050	51.6	3	0	0	103.2	103.2	103.2		
c8	8000U-050	51.6	3	0	0	103.2	103.2	103.2		
c9	DC 40	45.7	3	0	0	91.4	91.4	91.4		
c10	DC 35	33.9	3	0	0	67.8	67.8	67.8		
c11	DC 35	33.9	3	0	0	67.8	67.8	67.8		
c12	DC 35	33.9	3	0	0	67.8	67.8	67.8		
c13	DC 35	33.9	3	0	0	67.8	67.8	67.8		
c14	DC 35	33.9	3	0	0	67.8	67.8	67.8		
CD1	8000U-050	51.6	3	0	0	103.2	0	0		
CD2	8000U-050	51.6	3	0	0	103.2	0	0		
CD3	8000U-050	51.6	3	0	0	103.2	0	0		
CD4	8000U-050	51.6	3	0	0	103.2	0	0		
2c1	8000U-090	97.9	2	0	195.8	0	0	0		
2c2	8000U-090	97.9	2	0	195.8	0	0	0		
2c3	8000U-090	97.9	2	0	195.8	0	0	0		
2c4	8000U-090	97.9	2	0	195.8	0	0	0		
2c5	8000U-050	51.6	2	0	103.2	0	0	0		
2c6	8000U-050	51.6	2	0	103.2	0	0	0		
3c1	8000U-190	199.85	1	399.7	0	0	0	0		
3c2	8000U-190	199.85	1	399.7	0	0	0	0		
3c3	8000U-090	97.9	1	195.8	0	0	0	0		
d1	DC 35	33.9	4	0	0	0	67.8	67.8		
d2	DC 35	33.9	4	0	0	0	67.8	67.8		
d3	DC 35	33.9	4	0	0	0	67.8	67.8		
d4	DC 35	33.9	4	0	0	0	67.8	67.8		
stab	8000U-050	51.6	2	0	103.2	0	0	0		
br1	DC 35	33.9	NO LOAD CALCULATION							
br2	DC 35	33.9	NO LOAD CALCULATION							
br3	DC 35	33.9	NO LOAD CALCULATION							
br4	DC 35	33.9	NO LOAD CALCULATION							
br5	DC 35	33.9	NO LOAD CALCULATION							
br6	DC 35	33.9	NO LOAD CALCULATION							
br7	DC 35	33.9	NO LOAD CALCULATION							
br8	DC 35	33.9	NO LOAD CALCULATION							
br9	DC 35	33.9	NO LOAD CALCULATION							
br10	DC 35	33.9	NO LOAD CALCULATION							
br11	DC 35	33.9	NO LOAD CALCULATION							
br12	DC 35	33.9	NO LOAD CALCULATION							
br13	DC 35	33.9	NO LOAD CALCULATION							
2BR1	DC 35	33.9	NO LOAD CALCULATION							
2BR2	DC 35	33.9	NO LOAD CALCULATION							
2BR3	DC 35	33.9	NO LOAD CALCULATION							
2BR4	DC 35	33.9	NO LOAD CALCULATION							
2BR5	DC 35	33.9	NO LOAD CALCULATION							
2BR6	DC 35	33.9	NO LOAD CALCULATION							
4BR1	8000U-050	51.6	NO LOAD CALCULATION							
4BR2	8000U-050	51.6	NO LOAD CALCULATION							
4BR3	8000U-050	51.6	NO LOAD CALCULATION							
brmian	8000U-090	97.9	NO LOAD CALCULATION							
br5.1	TARAX-200	103.2	NO LOAD CALCULATION							

BRAKE

	L1	L2	L3	L4	L5
Total strength	2721.1	2887.4	3221.2	3871.4	3951
Theoretical 23G	23	L1<L2	L2<L3	L3<L4	L4<L5
MTOW (kg)	120.600098	127.970571	142.764703	171.581793	175.109693
Max allowed weight	120.600098				

Attachment points	82
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Lines data	Manufacturer	Material Cover	Material Core	Diameter	Strength (daN)	A/B	
DC 35	LIROS	-	Dyneema	0.38	33.9	>	20 daN
DC 40	LIROS	-	Dyneema	0.5	45.7	>	20 daN
DC 60	LIROS	-	Dyneema	0.6	71.25	>	20 daN
8000U-050	EDELRID	-	Aramid	0.5	51.6	>	20 daN
8000U-070	EDELRID	-	Aramid	0.7	65.8	>	20 daN
8000U-090	EDELRID	-	Aramid	0.8	97.9	>	20 daN
8000U-130	EDELRID	-	Aramid	1	121.75	>	20 daN
8000U-190	EDELRID	-	Aramid	1.2	199.85	>	20 daN
8000U-230	EDELRID	-	Aramid	1.3	243.75	>	20 daN
8000U-280	EDELRID	-	Aramid	1.6	270.1	>	20 daN
8000U-360	EDELRID	-	Aramid	1.7	370.6	>	20 daN
8000U-470	EDELRID	-	Aramid	1.9	491.85	>	20 daN
TARAX-200	EDELRID	Polyester	Dyneema	1.7	103.2	>	100 daN



A: The absolute minimum strength, Fbreak, obtained from the average 10 samples tested, including brake lines must be equal or greater than 20 daN.

B: The main brake line must have a minimum strength of 100 daN.

C: Strength of each type of lines test on a testing laboratory, the average of 10 samples and the speed of the procedure to break the line must be slower than 0,0166 m/s

D: At each level above, in every cascade of lines and across each line junction the calculated total strength has to be the same or stronger than the level below it (tolerance 5%).

IP X-One SERIAL

Small sizes Each level strength

RISER A	Reference	Level 1 (DaN)	Reference	Level 2 (DaN)	Reference	Level 3 (DaN)	Reference	Level 4 (DaN)	Reference	Level 5 (DaN)
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								a1	8000U-070	65.8	
						A1	8000U-090	97.9	b1	8000U-050	51.6
								a2	8000U-070	65.8	
						A2	8000U-090	97.9	b2	8000U-050	51.6
3a1	8000U-360	370.6						a3	8000U-070	65.8	
						A3	8000U-090	97.9	b3	8000U-050	51.6
								a4	8000U-070	65.8	
						A4	8000U-090	97.9	b4	8000U-050	51.6
								Sum L4			
								a1		65.8	
								b1		51.6	
								a2		65.8	
								b2		51.6	
								Sum L3			
								A1	97.9	117.4	
								a2		65.8	
								b2		51.6	
								A2	97.9	117.4	
								a3		65.8	
								b3		51.6	
								A3	97.9	117.4	
								a4		65.8	
								b4		51.6	
								A4	97.9	117.4	
								a4		65.8	
								b4		51.6	

RISER A	Reference	Level 1 (DaN)	Reference	Level 2 (DaN)	Reference	Level 3 (DaN)	Reference	Level 4 (DaN)	Reference	Level 5 (DaN)
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								a5	8000U-070	65.8	
								b5	8000U-050	51.6	
								a6	8000U-070	65.8	
								b6	8000U-050	51.6	
3a2	8000U-360	370.6				A5	8000U-090	97.9	a7	8000U-070	65.8
						A6	8000U-090	97.9	b7	8000U-050	51.6
								a7	8000U-070	65.8	
								b7	8000U-050	51.6	
								a8	8000U-070	65.8	
								b8	8000U-050	51.6	
								Sum L4			
								a5		65.8	
								b5		51.6	
								a6		65.8	
								b6		51.6	
								Sum L3			
								A5	97.9	117.4	
								a6		65.8	
								b6		51.6	
								A6	97.9	117.4	
								a7		65.8	
								b7		51.6	
								A7	97.9	117.4	
								a7		65.8	
								b7		51.6	
								A8	97.9	117.4	
								a8		65.8	
								b8		51.6	

RISER A	Reference	Level 1 (DaN)	Reference	Level 2 (DaN)	Reference	Level 3 (DaN)	Reference	Level 4 (DaN)	Reference	Level 5 (DaN)
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									a9	DC 40	45.7
									b9	DC 40	45.7
									a10	DC 40	45.7
									a11	DC 35	33.9
									a12	DC 35	33.9
4A1	8000U-130	121.75				3a3	8000U-090	97.9	2a6	8000U-070	65.8
									a13	DC 35	33.9
									a14	DC 35	33.9
									c13	DC 35	33.9
									c14	DC 35	33.9
									Sum L5		
									a9		45.7
									b9		45.7
									Sum L4		
									97.3	A9	51.6
									a10		45.7
									a11		33.9
									a12		33.9
									Sum L3		
									2a5	65.8	97.3
									a11		33.9
									a12		33.9
									Sum L2		
									3a3	97.9	134.6
									2a6	65.8	67.8
									a13		33.9
									a16		33.9
									c13		33.9
									c14		33.9

Load Calculation for Icepeak X-One size Z6



IP X-One Z6		Total strength							
	Strength daN	Level	Level 1	Level 2	Level 3	Level 4	Level 5		
a1	8000U-070	65.8	4	0	0	0	131.6	131.6	
a2	8000U-070	65.8	4	0	0	0	131.6	131.6	
a3	8000U-070	65.8	4	0	0	0	131.6	131.6	
a4	8000U-070	65.8	4	0	0	0	131.6	131.6	
a5	8000U-070	65.8	4	0	0	0	131.6	131.6	
a6	8000U-070	65.8	4	0	0	0	131.6	131.6	
a7	8000U-070	65.8	4	0	0	0	131.6	131.6	
a8	8000U-070	65.8	4	0	0	0	131.6	131.6	
a9	8000U-050	51.6	5	0	0	0	0	103.2	
a10	DC 40	45.7	4	0	0	0	91.4	91.4	
a11	DC 35	33.9	4	0	0	0	67.8	67.8	
a12	DC 35	33.9	4	0	0	0	67.8	67.8	
a13	DC 35	33.9	3	0	0	67.8	67.8	67.8	
a14	DC 35	33.9	3	0	0	67.8	67.8	67.8	
A1	8000U-130	121.75	3	0	0	243.5	0	0	
A2	8000U-130	121.75	3	0	0	243.5	0	0	
A3	8000U-130	121.75	3	0	0	243.5	0	0	
A4	8000U-130	121.75	3	0	0	243.5	0	0	
A5	8000U-090	97.9	3	0	0	195.8	0	0	
A6	8000U-090	97.9	3	0	0	195.8	0	0	
A7	8000U-090	97.9	3	0	0	195.8	0	0	
A8	8000U-090	97.9	3	0	0	195.8	0	0	
A9	8000U-050	51.6	4	0	0	0	103.2	0	
2a1	8000U-230	243.75	2	0	487.5	0	0	0	
2a2	8000U-230	243.75	2	0	487.5	0	0	0	
2a3	8000U-190	199.85	2	0	399.7	0	0	0	
2a4	8000U-190	199.85	2	0	399.7	0	0	0	
2a5	8000U-070	65.8	3	0	0	131.6	0	0	
2a6	8000U-070	65.8	3	0	0	131.6	0	0	
3a1	8000U-470	491.85	1	983.7	0	0	0	0	
3a2	8000U-360	370.6	1	741.2	0	0	0	0	
3a3	8000U-130	121.75	2	0	243.5	0	0	0	
4A1	8000U-190	199.85	1	399.7	0	0	0	0	
b1	8000U-070	65.8	4	0	0	0	131.6	131.6	
b2	8000U-070	65.8	4	0	0	0	131.6	131.6	
b3	8000U-070	65.8	4	0	0	0	131.6	131.6	
b4	8000U-070	65.8	4	0	0	0	131.6	131.6	
b5	8000U-050	51.6	4	0	0	0	103.2	103.2	
b6	8000U-050	51.6	4	0	0	0	103.2	103.2	
b7	8000U-050	51.6	4	0	0	0	103.2	103.2	
b8	8000U-050	51.6	4	0	0	0	103.2	103.2	
b9	8000U-050	51.6	5	0	0	0	0	103.2	
c1	8000U-070	65.8	4	0	0	0	131.6	131.6	
c2	8000U-070	65.8	4	0	0	0	131.6	131.6	
c3	8000U-070	65.8	4	0	0	0	131.6	131.6	
c4	8000U-070	65.8	4	0	0	0	131.6	131.6	
c5	8000U-070	65.8	3	0	0	131.6	131.6	131.6	
c6	8000U-070	65.8	3	0	0	131.6	131.6	131.6	
c7	8000U-070	65.8	3	0	0	131.6	131.6	131.6	
c8	8000U-070	65.8	3	0	0	131.6	131.6	131.6	
c9	DC 40	45.7	3	0	0	91.4	91.4	91.4	
c10	DC 40	45.7	3	0	0	91.4	91.4	91.4	
c11	DC 40	45.7	3	0	0	91.4	91.4	91.4	
c12	DC 40	45.7	3	0	0	91.4	91.4	91.4	
c13	DC 35	33.9	3	0	0	67.8	67.8	67.8	
c14	DC 35	33.9	3	0	0	67.8	67.8	67.8	
CD1	8000U-090	97.9	3	0	0	195.8	0	0	
CD2	8000U-090	97.9	3	0	0	195.8	0	0	
CD3	8000U-090	97.9	3	0	0	195.8	0	0	
CD4	8000U-090	97.9	3	0	0	195.8	0	0	
2c1	8000U-130	121.75	2	0	243.5	0	0	0	
2c2	8000U-130	121.75	2	0	243.5	0	0	0	
2c3	8000U-130	121.75	2	0	243.5	0	0	0	
2c4	8000U-130	121.75	2	0	243.5	0	0	0	
2c5	8000U-050	51.6	2	0	103.2	0	0	0	
2c6	8000U-050	51.6	2	0	103.2	0	0	0	
3c1	8000U-230	243.75	1	487.5	0	0	0	0	
3c2	8000U-230	243.75	1	487.5	0	0	0	0	
3c3	8000U-070	65.8	1	131.6	0	0	0	0	
d1	DC 35	33.9	4	0	0	0	67.8	67.8	
d2	DC 35	33.9	4	0	0	0	67.8	67.8	
d3	DC 35	33.9	4	0	0	0	67.8	67.8	
d4	DC 35	33.9	4	0	0	0	67.8	67.8	
stab	8000U-090	97.9	2	0	195.8	0	0	0	
br1	DC 35	33.9	NO LOAD CALCULATION						
br2	DC 35	33.9	NO LOAD CALCULATION						
br3	DC 35	33.9	NO LOAD CALCULATION						
br4	DC 35	33.9	NO LOAD CALCULATION						
br5	DC 35	33.9	NO LOAD CALCULATION						
br6	DC 35	33.9	NO LOAD CALCULATION						
br7	DC 35	33.9	NO LOAD CALCULATION						
br8	DC 35	33.9	NO LOAD CALCULATION						
br9	DC 35	33.9	NO LOAD CALCULATION						
br10	DC 35	33.9	NO LOAD CALCULATION						
br11	DC 35	33.9	NO LOAD CALCULATION						
br12	DC 35	33.9	NO LOAD CALCULATION						
br13	DC 35	33.9	NO LOAD CALCULATION						
2BR1	DC 35	33.9	NO LOAD CALCULATION						
2BR2	DC 35	33.9	NO LOAD CALCULATION						
2BR3	DC 35	33.9	NO LOAD CALCULATION						
2BR4	DC 35	33.9	NO LOAD CALCULATION						
2BR5	DC 35	33.9	NO LOAD CALCULATION						
2BR6	DC 35	33.9	NO LOAD CALCULATION						
4BR1	8000U-050	51.6	NO LOAD CALCULATION						
4BR2	8000U-050	51.6	NO LOAD CALCULATION						
4BR3	8000U-050	51.6	NO LOAD CALCULATION						
brmian	8000U-090	97.9	NO LOAD CALCULATION						
br5.1	TARAX-200	103.2	NO LOAD CALCULATION						
			L1	L2	L3	L4	L5		
	Total strength		3231.2	3394.1	3966.8	4283	4386.2		
	Theoretical Z3G		23	L1<L2	L2<L3	L3<L4	L4<L5		
	MTOW (kg)		143.207907	150.427691	175.809954	189.824048	194.397908		
	Max allowed weight		143.207907						

BRAKE

Lines data	Manufacturer	Material Cover	Material Core	Diameter	Strength (daN)	A/B	
DC 35	LIROS	-	Dyneema	0.38	33.9	>	20 daN
DC 40	LIROS	-	Dyneema	0.5	45.7	>	20 daN
DC 60	LIROS	-	Dyneema	0.6	71.25	>	20 daN
8000U-050	EDELRID	-	Aramid	0.5	51.6	>	20 daN
8000U-070	EDELRID	-	Aramid	0.7	65.8	>	20 daN
8000U-090	EDELRID	-	Aramid	0.8	97.9	>	20 daN
8000U-130	EDELRID	-	Aramid	1	121.75	>	20 daN
8000U-190	EDELRID	-	Aramid	1.2	199.85	>	20 daN
8000U-230	EDELRID	-	Aramid	1.3	243.75	>	20 daN
8000U-280	EDELRID	-	Aramid	1.6	270.1	>	20 daN
8000U-360	EDELRID	-	Aramid	1.7	370.6	>	20 daN
8000U-470	EDELRID	-	Aramid	1.9	491.85	>	20 daN
TARAX-200	EDELRID	Polyester	Dyneema	1.7	103.2	>	100 daN



A: The absolute minimum strength, F_{break}, obtained from the average 10 samples tested, including brake lines must be equal or greater than 20 daN.

B: The main brake line must have a minimum strength of 100 daN.

C: Strength of each type of lines test on a testing laboratory, the average of 10 samples and the speed of the procedure to break the line must be slower than 0,0166 m/s

D: At each level above, in every cascade of lines and across each line junction the calculated total strength has to be the same or stronger than

IP X-One
SERIAL big
size Each level strength

RISER A	Reference	Level 1 (DaN)	Reference	Level 2 (DaN)	Reference	Level 3 (DaN)	Reference	Level 4 (DaN)	Reference	Level 5 (DaN)
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					A1	8000U-130	121.75	a1	8000U-070	65.8	
								b1	8000U-070	65.8	
			2a1	8000U-230	243.75	A2	8000U-130	121.75	a2	8000U-070	65.8
								b2	8000U-070	65.8	
3a1	8000U-470	491.85	2a2	8000U-230	243.75	A3	8000U-130	121.75	a3	8000U-070	65.8
								b3	8000U-070	65.8	
						A4	8000U-130	121.75	a4	8000U-070	65.8
								b4	8000U-070	65.8	
							Sum L4	a1	65.8		
					A1	121.75	131.6	b1	65.8		
								a2	65.8		
			Sum L2	2a1	243.75	243.5	A2	121.75	131.6	b2	65.8
3a1	491.85	487.5						a3	65.8		
			2a2	243.75	243.5	A3	121.75	131.6	b3	65.8	
								a4	65.8		
						A4	121.75	131.6	b4	65.8	

RISER A	Reference	Level 1 (DaN)	Reference	Level 2 (DaN)	Reference	Level 3 (DaN)	Reference	Level 4 (DaN)	Reference	Level 5 (DaN)
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					A5	8000U-090	97.9	a5	8000U-070	65.8	
								b5	8000U-050	51.6	
			2a3	8000U-190	199.85	A6	8000U-090	97.9	a6	8000U-070	65.8
								b6	8000U-050	51.6	
3a2	8000U-360	370.6	2a4	8000U-190	199.85	A7	8000U-090	97.9	a7	8000U-070	65.8
								b7	8000U-050	51.6	
						A8	8000U-090	97.9	a8	8000U-070	65.8
								b8	8000U-050	51.6	
							Sum L4	a5	65.8		
					A5	97.9	117.4	b5	51.6		
								a6	65.8		
			Sum L2	2a3	199.85	195.8	A6	97.9	117.4	b6	51.6
3a2	370.6	399.7						a7	65.8		
			2a4	199.85	195.8	A7	97.9	117.4	b7	51.6	
								a8	65.8		
						A8	97.9	117.4	b8	51.6	

RISER A	Reference	Level 1 (DaN)	Reference	Level 2 (DaN)	Reference	Level 3 (DaN)	Reference	Level 4 (DaN)	Reference	Level 5 (DaN)
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									a9	8000U-050	51.6
									b9	8000U-050	51.6
					2a5	8000U-070	65.8	A9	8000U-050	51.6	
								a10	DC 40	45.7	
			3a3	8000U-130	121.75	2a6	8000U-070	65.8	a11	DC 35	33.9
								a12	DC 35	33.9	
4A1	8000U-190	199.85	stab	8000U-090	97.9	a13	DC 35	33.9			
						a14	DC 35	33.9			
						c13	DC 35	33.9			
						c14	DC 35	33.9			
								Sum L4	A9	51.6	
					2a5	65.8	97.3	a10	45.7	103.2	
								a11	33.9		
			Sum L2	3a3	121.75	131.6	2a6	65.8	67.8	a12	33.9
4A1	199.85	219.65	stab	97.9	135.6	a13	33.9				
						a16	33.9				
						c13	33.9				
						c14	33.9				



Lines materials Icepeak X-One sizes 20-22-24-25

a Upper line				b Upper line				c Upper line				d Upper line			
Number from center	Supplier Reference	Supplier name	Upper+lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper+lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper+lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper+lower reinforcement
a1	8000U-070	Edelrid	yes	b1	8000U-050	Edelrid	yes	c1	8000U-050	Edelrid	yes	d1	DC 35	Liros	no
a2	8000U-070	Edelrid	yes	b2	8000U-050	Edelrid	yes	c2	8000U-050	Edelrid	yes	d2	DC 35	Liros	no
a3	8000U-070	Edelrid	yes	b3	8000U-050	Edelrid	yes	c3	8000U-050	Edelrid	yes	d3	DC 35	Liros	no
a4	8000U-070	Edelrid	yes	b4	8000U-050	Edelrid	yes	c4	8000U-050	Edelrid	yes	d4	DC 35	Liros	no
a5	8000U-070	Edelrid	yes	b5	8000U-050	Edelrid	yes	c5	8000U-050	Edelrid	yes				
a6	8000U-070	Edelrid	yes	b6	8000U-050	Edelrid	yes	c6	8000U-050	Edelrid	yes				
a7	8000U-070	Edelrid	yes	b7	8000U-050	Edelrid	yes	c7	8000U-050	Edelrid	yes				
a8	8000U-070	Edelrid	yes	b8	8000U-050	Edelrid	yes	c8	8000U-050	Edelrid	yes				
a9	DC 40	Liros	no	b9	DC 40	Liros	no	c9	DC 40	Liros	no				
a10	DC 40	Liros	no					c10	DC 35	Liros	no				
a11	DC 35	Liros	no					c11	DC 35	Liros	no				
a12	DC 35	Liros	no					c12	DC 35	Liros	no				
a13	DC 35	Liros	no					c13	DC 35	Liros	no				
a14	DC 35	Liros	no					c14	DC 35	Liros	no				

A first cascade					C first cascade				
Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement
A1	8000U-090	Edelrid	yes	yes	CD1	8000U-050	Edelrid	yes	yes
A2	8000U-090	Edelrid	yes	yes	CD2	8000U-050	Edelrid	yes	yes
A3	8000U-090	Edelrid	yes	yes	CD3	8000U-050	Edelrid	yes	yes
A4	8000U-090	Edelrid	yes	yes	CD4	8000U-050	Edelrid	yes	yes
A5	8000U-090	Edelrid	yes	yes	2c3	8000U-090	Edelrid	yes	yes
A6	8000U-090	Edelrid	yes	yes	2c4	8000U-090	Edelrid	yes	yes
A7	8000U-090	Edelrid	yes	yes	2c5	8000U-050	Edelrid	yes	yes
A8	8000U-090	Edelrid	yes	yes	2c6	8000U-050	Edelrid	yes	yes
A9	8000U-050	Edelrid	yes	yes					
2a5	8000U-070	Liros	no	no					
2a6	8000U-070	Liros	no	no					

a 2nd cascade					c 2nd cascade				
Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement
2a1	8000U-190	Edelrid	yes	yes	2c1	8000U-090	Edelrid	yes	yes
2a2	8000U-190	Edelrid	yes	yes	2c2	8000U-090	Edelrid	yes	yes
2a3	8000U-190	Edelrid	yes	yes					
2a4	8000U-190	Edelrid	yes	yes					
3A3	8000U-090	Edelrid	yes	yes					
stab	8000U-050	Edelrid	yes	yes					

A main					B main				
Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement
3a1	8000U-360	Edelrid	yes	yes	3c1	8000U-190	Edelrid	yes	yes
3a2	8000U-360	Edelrid	yes	yes	3c2	8000U-190	Edelrid	yes	yes
4A1	8000U-130	Edelrid	yes	yes	3c3	8000U-090	Edelrid	yes	yes

Brake Upper line			Brake Medium high line		
Number from center	Supplier Reference	Supplier name	Number from center	Supplier Reference	Supplier name
br1	DC 35	Liros	2BR1	DC 35	Liros
br2	DC 35	Liros	2BR2	DC 35	Liros
br3	DC 35	Liros	2BR3	DC 35	Liros
br4	DC 35	Liros	2BR4	DC 35	Liros
br5	DC 35	Liros	2BR5	DC 35	Liros
br6	DC 35	Liros	2BR6	DC 35	Liros
br7	DC 35	Liros			
br8	DC 35	Liros			
br9	DC 35	Liros			
br10	DC 35	Liros			
br11	DC 35	Liros			
br12	DC 35	Liros			
br13	DC 35	Liros			

Brake main line		
Number from center	Supplier Reference	Supplier name
br5.1	8000U-090	Edelrid
brmain	TARAX 200	Edelrid

Brake Medium low line		
Number from center	Supplier Reference	Supplier name
4BR1	8000U-050	Edelrid
4BR2	8000U-050	Edelrid
4BR3	8000U-050	Edelrid



Lines materials Icepeak X-One sizes 26

a Upper line				b Upper line				c Upper line				d Upper line			
Number from center	Supplier Reference	Supplier name	Upper+lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper+lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper+lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper+lower reinforcement
a1	8000U-070	Edelrid	yes	b1	8000U-070	Edelrid	yes	c1	8000U-070	Edelrid	yes	d1	DC 35	Liros	no
a2	8000U-070	Edelrid	yes	b2	8000U-070	Edelrid	yes	c2	8000U-070	Edelrid	yes	d2	DC 35	Liros	no
a3	8000U-070	Edelrid	yes	b3	8000U-070	Edelrid	yes	c3	8000U-070	Edelrid	yes	d3	DC 35	Liros	no
a4	8000U-070	Edelrid	yes	b4	8000U-070	Edelrid	yes	c4	8000U-070	Edelrid	yes	d4	DC 35	Liros	no
a5	8000U-070	Edelrid	yes	b5	8000U-050	Edelrid	yes	c5	8000U-070	Edelrid	yes				
a6	8000U-070	Edelrid	yes	b6	8000U-050	Edelrid	yes	c6	8000U-070	Edelrid	yes				
a7	8000U-070	Edelrid	yes	b7	8000U-050	Edelrid	yes	c7	8000U-070	Edelrid	yes				
a8	8000U-070	Edelrid	yes	b8	8000U-050	Edelrid	yes	c8	8000U-070	Edelrid	yes				
a9	8000U-050	Edelrid	yes	b9	8000U-050	Edelrid	yes	c9	DC 40	Liros	no				
a10	DC 40	Liros	no					c10	DC 40	Liros	no				
a11	DC 35	Liros	no					c11	DC 40	Liros	no				
a12	DC 35	Liros	no					c12	DC 40	Liros	no				
a13	DC 35	Liros	no					c13	DC 35	Liros	no				
a14	DC 35	Liros	no					c14	DC 35	Liros	no				

A first cascade					C first cascade				
Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement
A1	8000U-130	Edelrid	yes	yes	CD1	8000U-090	Edelrid	yes	yes
A2	8000U-130	Edelrid	yes	yes	CD2	8000U-090	Edelrid	yes	yes
A3	8000U-130	Edelrid	yes	yes	CD3	8000U-090	Edelrid	yes	yes
A4	8000U-130	Edelrid	yes	yes	CD4	8000U-090	Edelrid	yes	yes
A5	8000U-090	Edelrid	yes	yes	2c3	8000U-130	Edelrid	yes	yes
A6	8000U-090	Edelrid	yes	yes	2c4	8000U-130	Edelrid	yes	yes
A7	8000U-090	Edelrid	yes	yes	2c5	8000U-050	Edelrid	yes	yes
A8	8000U-090	Edelrid	yes	yes	2c6	8000U-050	Edelrid	yes	yes
A9	8000U-050	Edelrid	yes	yes					
2a5	8000U-070	Liros	no	no					
2a6	8000U-070	Liros	no	no					

a 2nd cascade					c 2nd cascade				
Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement
2a1	8000U-230	Edelrid	yes	yes	2c1	8000U-130	Edelrid	yes	yes
2a2	8000U-230	Edelrid	yes	yes	2c2	8000U-130	Edelrid	yes	yes
2a3	8000U-190	Edelrid	yes	yes					
2a4	8000U-190	Edelrid	yes	yes					
3A3	8000U-130	Edelrid	yes	yes					
stab	8000U-090	Edelrid	yes	yes					

A main					B main				
Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement	Number from center	Supplier Reference	Supplier name	Upper reinforcement	Lower reinforcement
3a1	8000U-470	Edelrid	yes	yes	3c1	8000U-230	Edelrid	yes	yes
3a2	8000U-360	Edelrid	yes	yes	3c2	8000U-230	Edelrid	yes	yes
4A1	8000U-190	Edelrid	yes	yes	3c3	8000U-070	Edelrid	yes	yes

Brake Upper line			Brake Medium high line		
Number from center	Supplier Reference	Supplier name	Number from center	Supplier Reference	Supplier name
br1	DC 35	Liros	2BR1	DC 35	Liros
br2	DC 35	Liros	2BR2	DC 35	Liros
br3	DC 35	Liros	2BR3	DC 35	Liros
br4	DC 35	Liros	2BR4	DC 35	Liros
br5	DC 35	Liros	2BR5	DC 35	Liros
br6	DC 35	Liros	2BR6	DC 35	Liros
br7	DC 35	Liros			
br8	DC 35	Liros			
br9	DC 35	Liros			
br10	DC 35	Liros			
br11	DC 35	Liros			
br12	DC 35	Liros			
br13	DC 35	Liros			

Brake main line		
Number from center	Supplier Reference	Supplier name
br5.1	8000U-090	Edelrid
brmain	TARAX 200	Edelrid

Brake Medium low line		
Number from center	Supplier Reference	Supplier name
4BR1	8000U-050	Edelrid
4BR2	8000U-050	Edelrid
4BR3	8000U-050	Edelrid