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Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes

PG PARAGLIDERS CCC

INSPECTION CERTIFICATE

Inspection certificate number: **CCC_015_2016**

MANUFACTURER DATA

Manufacturer name:	**Dudek Paragliders SJ**
Representative	**Wojtek Domanski**
Street:	**Ul. Centralna 2U**
Post code / place:	**86-031 Osielsko**
Country:	**Poland**

SAMPLE DATA

Name:	**CODEN PRO**	Size:	**20**
Min weight in flight [kg]:	**80**	Max weight in flight [kg]:	**95**
		Max weight load [kg]:	**130**
Weight [kg]:	**5.8**	Use:	**Single-seater**
Load serial number:	**P-129431**	Date of reception:	**16.02.2016**
Flight serial number :	**P-125031**	Date of reception:	**02.12.2015**

TEST REPORT SUMMARY		RESULTS	PLACE	DATE
PGCCC 1	71.8.1 | SHOCK LOAD TEST:	**POSITIVE**	Yverdon(airport)	**07.03.2016**
PGCCC 2	71.8.1 | SUSTAINED LOAD TEST:	**POSITIVE**	Payerne(airport)	**19.03.2016**
PGCCC 3	71.8.2 | FLIGHT TEST:	**CCC**	Villeneuve	**21.01.2016**
CCC1-6	CCC technical files 1-6	**POSITIVE**	Villeneuve	**12.04.2016**
PGCCC 5	71.6.3 | LINE BREAK STRENGTH:	**POSITIVE**	Villeneuve	**21.04.2016**

ISSUE DATA

Place of declaration:	**Villeneuve**
Date of issue:	**22.04.2016**
Managing Director:	**Alain Zoller**

Signature:

This signature aprouve the validity of the test reports PG 1 to PG 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 norms:

CIVL COMPETITION CLASS | CCC / 2015 Edition / Revision 3.5 / CIVL 01 Sept 2014

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 complete with the test report number:
PG1CCC, PG2CCC, PGCCC3, PG5, CCC 1 TO 6

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SHOCK LOADING TEST

TEST REPORT PGCCC 1

PG PARAGLIDERS

Test report ref. number: **CCC_015_2016**

SAMPLE DATA

Manufacturer name:	**Dudek Paragliders SJ**
Representative	**Wojtek Domanski**
Street:	**Ul. Centralna 2U**
Post code / place:	**86-031 Osielsko**
Country:	**Poland**

SAMPLE DATA

Name:	**CODEN PRO**
Size:	**25**
Maximum load [kg]:	**130**
Serial number:	**P-129431**
Date of reception:	**16.02.2016**

TEST DATA

Place of test:	**Yverdon(airport)**
Date of test:	**07.03.2016**
Inspector:	**Alain Zoller**
Results:	**POSITIVE**
Directive:	**CIVL COMPETITION CLASS | CCC** / 2015 Edition / Revision 3.5 / CIVL 01 Sept 2014

The paraglider is subjected to a shock load . Shock load is limited using a weak link accordind weight range.
The weak link breaks or 5 s has elapsed since the application of the shock load. The wing is then visually inspected for damage.

TEST RESULTS:		TEST ATMOSPHERE AGL	
Weak link used [daN]:	**1000**	[C°]	4
Visual inspection:	**No visible damages**	RH [%]	69
		[hPa]	1001
Uncertainty k=2 [%]	**10**	Wind [m/s]	0.5

Weak link value include the uncertainty for weight range test values (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%.

WEAK LINK

INSTRUMENTS	Validity	Manufacturer	s/n
Weak link	2020	Tost	n/a
Cable	2020	Rotex	n/a
Geos n° 11 Skywatch	08.05.2017	JDC elec.	22

The validation of this test report is given by the signature of the test manager on inspection certificate CCC Inspection certificate / 71.8.1 CCC

SUSTAINED LOADING TEST

TEST REPORT PGCCC 2

PG PARAGLIDERS

Test report ref. number:	**CCC_015_2016**

MANUFACTURER DATA

Manufacturer name:	**Dudek Paragliders SJ**
Representative	**Wojtek Domanski**
Street:	**Ul. Centralna 2U**
Post code / place:	**86-031 Osielsko**
Country:	**Poland**

SAMPLE DATA

Name:	**CODEN PRO**
Size:	**25**
Maximum load [kg]:	**130**
Serial number:	**P-129431**
Date of reception:	**16.02.2016**

TEST DATA

Place of test:	**Payerne(airport)**
Date of test:	**19.03.2016**
Inspector:	**Alain Zoller**
Results:	**POSITIVE**
Directive:	**CIVL COMPETITION CLASS | CCC** / 2015 Edition / Revision 3.5 / CIVL 01 Sept 2014

The test specimen is attached to the electronic sensors on the tow vehicle.
A controller is positioned on the tow vehicle in order to operate the paraglider control lines to stabilize the wing.
The speed of the vehicle is increased as gradually as possible, enabling the controller to obtain satisfactory stabilisation of the flight path of the paraglider.
When the paraglider has stabilized, the speed is increased gradually until either:
1) the measured load exceeds a load factor of eight times the maximum total weight in flight recommended by the manufacturer, for a minimum cumulative duration of 3 s; or
2) five peaks separated by at least 0,3 s are obtained above ten times the maximum total weight in flight recommended by the manufacturer, in one run.

TEST ATMOSPHERE AGL

[C°]	**4**
RH [%]	**69**
[hPa]	**1001**
Wind [m/s]	**0.5**

RESULTS

Required breaking strength value for 3s at 8g [N]	**10202.40**	
Required breaking strength value for 5 pics at 10g [N]	**12753.00**	
Required breaking strength value for 3s at 8g at coef. 0.9 [N]	**9182.16**	
Required breaking strength value for 5 pics at coef. 0.9 [N]	**11477.70**	
Uncertainty K=2 [%]	**0.5**	
Calculed cumulative duration breaking strength value [s]	**3.19**	
Calculed max load value with 3 sec or five peaks [kg]	**130.50**	0

Calculed 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 71.8.1

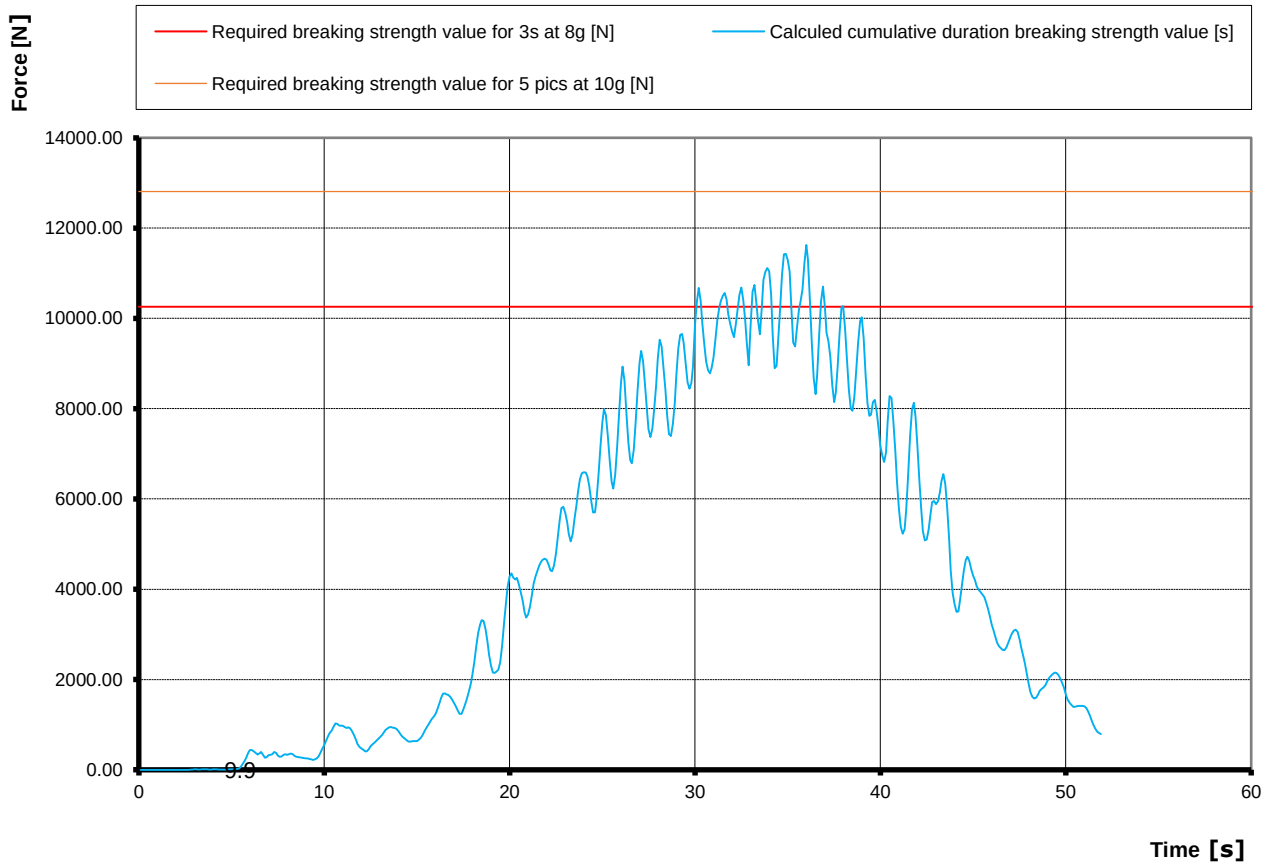
SUSTAINED LOADING TEST

TEST REPORT PGCCC 2

PG PARAGLIDERS

Test report ref. number: **CCC_015_2016**

GRAPHIQUE LOAD



DETAILED RESULTS

Calculed max load value with cumulative 3 sec [kg]	**130.50**
Calculed max load value with cumulative 3 sec [kg]	**1280.21**
Calculed max load value with five peaks [kg]	**106.70**
Calculed max load value with five peaks [kg]	**1046.70**

Calculed 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%.

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

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Canopy dimensions REPORT

CCC 1

Test report ref. number: CCC_015_2016

Name: **CODEN PRO**
Size: **20**
Maximum load [kg]: **95**
Serial number: **P-125031**
Date of reception: **02.12.2015**

Place: **Villeneuve**
Date of measurement: **25.02.2016**
Inspector: **Gilles Berruex**
Results: **POSITIVE**

[C°] **21.5**
RH [%] **45**
[hPa] **1008**

CIVL COMPETITION CLASS | CCC / 2015 Edition / Revision 3.5 / CIVL 01 Sept 2014

Canopy dimensions

	RIB nb from center	**Measure** mm	**Tension**	**Tolerances**
Full Span		12055	3KG	2%
1/2 Trailing Edge		6065	3KG	1%
Chord A	1	2090	25	1%
Chord B	23	1746	3KG	1%

Aspect ratio 4*span / (chord A+2.5*Chord B)
7.47

Nbr cells (total)
98

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

First fully lined RIB of group 1 (from center)

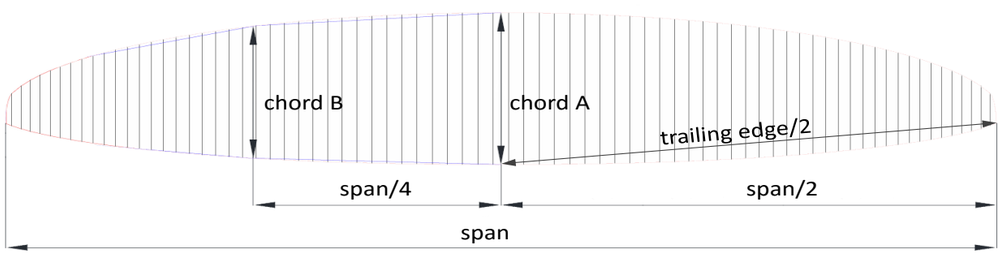
	Rib n°	Distance	Tension	Tolerances
Chord	3	2073	3KG	+/-10mm
Top of inlet	3	1992	3KG	+/-10mm
Bottom of inlet	3	1970	3KG	+/-10mm
Tab Aa	3	1805	3KG	+/-10mm
Tab Ab	3	1706	3KG	+/-10mm
Tab B	3	931	3KG	+/-10mm
Tab C	3	661	3KG	+/-10mm

First fully lined RIB of group 2 (from center)

	Rib n°	Distance	Tension	Tolerances
Chord	23	1746	3KG	+/-10mm
Top of inlet	23	1672	3KG	+/-10mm
Bottom of inlet	23	1651	3KG	+/-10mm
Tab Aa	23	1498	21.04.2016	+/-10mm
Tab Ab	23	1420	3KG	+/-10mm
Tab B	23	771	3KG	+/-10mm
Tab C	23	549	3KG	+/-10mm

Last lined rib (stabilo) (from center)

	Rib n°	Distance	Tension	Tolerances
Chord	47	636	3KG	+/-10mm
Tab A	47	526	3KG	+/-10mm
Tab B	47	311	3KG	+/-10mm



The validation of this test report is given by the signature of the test manager on inspection certificate CCC Inspection certificate / 71.8.1 CCC

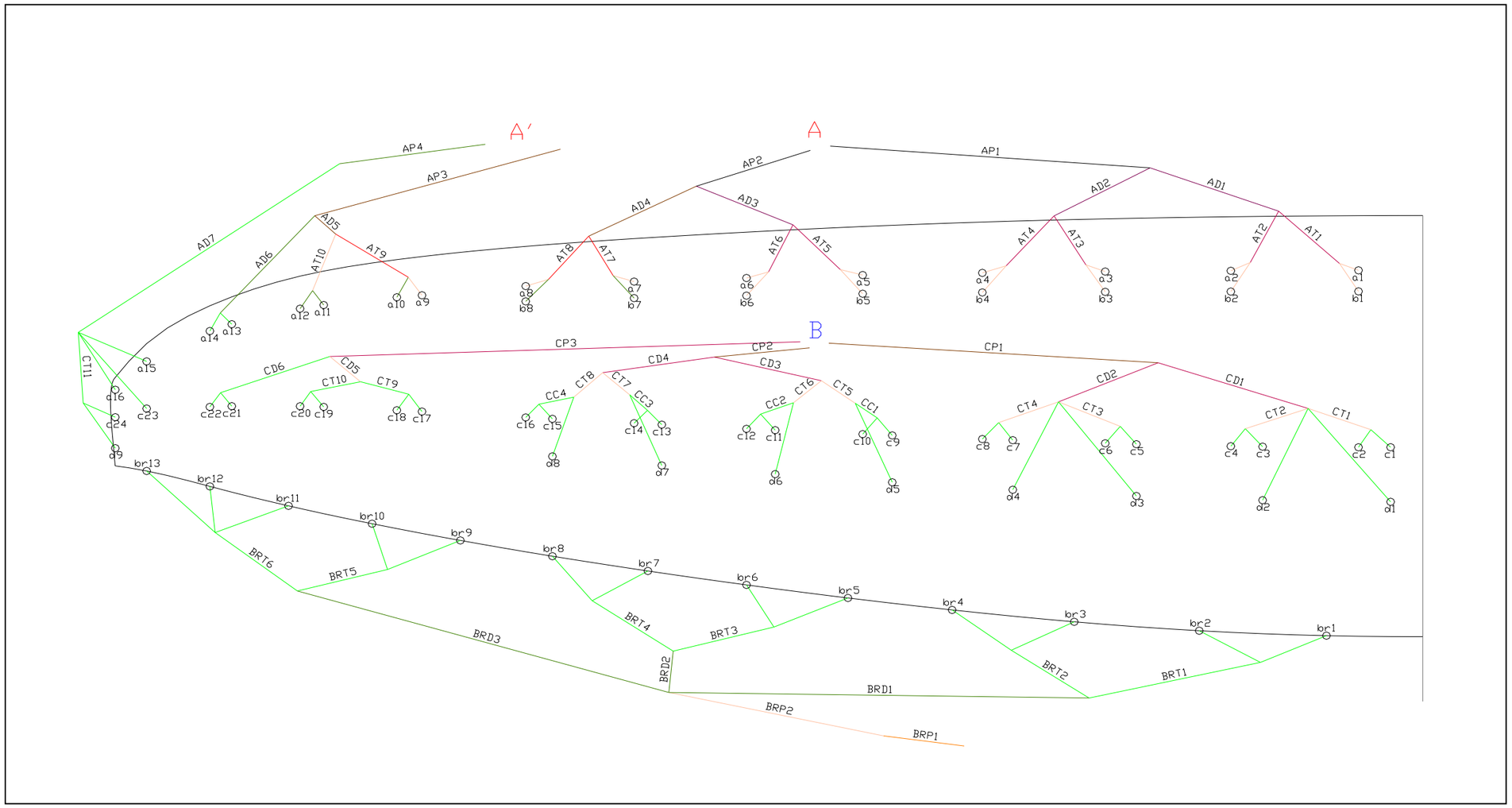
Line plan REPORT

CCC 2

Test report ref. number:	**CCC_015_2016**				
Name:	**CODEN PRO**	Place:	**Villeneuve**	[C°]	**21.5**
Size:	**20**	Date of measurement:	**25.02.2016**	RH [%]	**45**
Maximum load [kg]:	**95**	Inspector:	**Gilles Berruex**	[hPa]	**1008**
Serial number:	**P-125031**				
Date of reception:	**02.12.2015**	Results:	**POSITIVE**		

CIVL COMPETITION CLASS | CCC / 2015 Edition / Revision 3.5 / CIVL 01 Sept 2014

Line plan



The validation of this test report is given by the signature of the test manager on inspection certificate CCC Inspection certificate / 71.8.1 CCC

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Line measurement

CCC 3

Test report ref. number: **CCC_015_2016**

Name: **CODEN PRO** | Place: **Villeneuve** | [C°] **21.5**

Size: **20** | Date of measurement: **25.02.2016** | RH [%] **45**

Maximum load [kg]: **95** | Inspector: **Gilles Berruex** | [hPa] **1008**

Serial number: **P-125031**

Date of reception: **02.12.2015** | Results: **POSITIVE**

CIVL COMPETITION CLASS | CCC / 2015 Edition / Revision 3.5 / CIVL 01 Sept 2014

ABSOLUTE LINE LENGHT from inner riser to canopy in [mm] with 50 [N] of tension

		A			A'			B			B'			ST			BRAKE+STRAP			FL
		Manual	Glider	Diff	Manual	Glider	Diff	Manual	Glider	Diff	Manual	Glider	Diff	Manual	Glider	Diff	Manual	Glider	Diff	Glider
Center	1	7614	7623	9	7592	7600	8	7627	7623	-4	7715	7712	-3	6687	6684	-3	8055	8049	-6	7170
	2	7476	7479	3	7451	7455	4	7559	7556	-3	7553	7549	-4	6677	6675	-2	7725	7721	-4	7019
	3	7438	7438	0	7415	7417	2	7458	7458	0	7507	7501	-6	6625	6623	-2	7515	7515	0	6978
	4	7505	7504	-1	7483	7481	-2	7448	7446	-2	7532	7533	1	6644	6640	-4	7492	7489	-3	7031
	5	7427	7420	-7	7406	7407	1	7415	7415	0	7515	7511	-4	6736	6735	-1	7304	7296	-8	6926
	6	7266	7264	-2	7246	7244	-2	7408	7407	-1	7341	7338	-3				7185	7182	-3	6774
	7	7203	7205	2	7184	7188	4	7461	7460	-1	7270	7269	-1				7118	7115	-3	6693
	8	7238	7237	-1	7222	7221	-1	7505	7502	-3	7278	7273	-5				7255	7248	-7	6713
	9	7034	7026	-8				7434	7426	-8							7126	7124	-2	6512
	10	6983	6978	-5				7371	7368	-3							7099	7093	-6	6359
	11	6889	6886	-3				7259	7256	-3							7069	7066	-3	6266
	12	6885	6879	-6				7252	7250	-2							7229	7225	-4	6265
	13	6820	6812	-8				7198	7195	-3							7460	7458	-2	
	14	6819	6815	-4				7185	7183	-2										
	15							7218	7220	2										
	16							7256	7256	0										
	17							7065	7063	-2										
	18							7012	7015	3										
	19							6919	6920	1										
	20							6917	6916	-1										
	21							6835	6830	-5										
Wing tip	22							6836	6829	-7										

Risers : **A'**

CL: n/a

RFL: 658

Uncertainty k2 of measurement **3.00** [mm]

Total length measured from the underside of the wing to the inner edge of the risers and with a tension of 50 [N]

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Risers measurement REPORT

CCC 4

Riser length Manual with carabiner

Riser length Manual with carabiner in [mm] with 50 [N] of tension

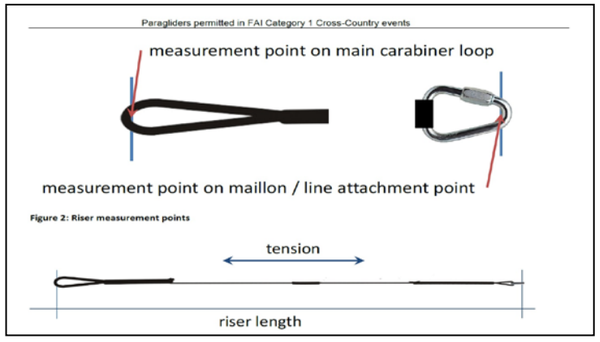
	A	A'	B			calculated Δt	Tension	Tolerances	Attachment rod diameter in mm
Neutral	533	530	530			3 mm	5 [kg]	+/-5mm	5

Full speed setting		
A-A'	67	+/-5mm
A-B	138	+/-5mm

Full speed setting		Tolerances
A'-B	71	+/-5mm

Total speed Range (Δa+Δt)	141	+/-5mm

04.01.2017



Riser draw

The validation of this test report is given by the signature of the test manager on inspection certificate CCC Inspection certificate / 71.8.1 CCC□

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Line quality

CCC 5

Test report ref. number: **CCC_015_2016**

Name: **CODEN PRO**
Size: **20**
Maximum load [kg]: **95**
Serial number: **P-125031**
Date of reception: **02.12.2015**

Place: **Villeneuve**
Date of measurement: **25.02.2016**
Inspector: **Gilles Berruex**
Results: **POSITIVE**

[C°] **21.5**
RH [%] **45**
[hPa] **1008**

CIVL COMPETITION CLASS | CCC / 2015 Edition / Revision 3.5 / CIVL 01 Sept 2014

Table of lines quality

CodenPro-20
The tables / Tables / Tabele:
The individual lenghts and type of line
La longueur et le type de chaque 25
Długości i rodzaj poszczególnych linek

	a	b	c	d	br
1	240	217	242	1554	718
2	241	217	175	1392	388
3	239	215	204	1381	499
4	239	217	194	1411	475
5	237	216	199	909	495
6	237	217	192	740	376
7	236	214	173	687	312
8	234	214	217	670	448
9	216		220	295	423
10	160		157		396
11	166		196		400
12	162		189		560
13	158		196		791
14	157		184		
15	538		170		
16	476		208		
17			208		
18			156		
19			161		
20			159		
21			156		
22			157		
23			528		
24			198		

The total lenghts
Longueur des suspentes
Sumaryczna długość linek

	a	b	c	d	br
1	7614	7592	7627	7715	8055
2	7476	7451	7559	7553	7725
3	7438	7415	7458	7507	7515
4	7505	7483	7448	7532	7492
5	7427	7406	7415	7515	7304
6	7266	7246	7408	7341	7185
7	7203	7184	7461	7270	7118
8	7238	7222	7505	7278	7255
9	7034		7434	6736	7126
10	6983		7371		7099
11	6889		7259		7069
12	6885		7252		7229
13	6820		7198		7460
14	6819		7185		
15	6687		7218		
16	6625		7256		
17			7065		
18			7012		
19			6919		
20			6917		
21			6835		
22			6836		
23			6677		
24			6644		

	AT	BT	CT	CC	BRT
1	1156		1241	620	1477
2	1016		1115	474	1157
3	1007		1112	431	999
4	1074		1184	457	998
5	1077		368		669
6	917		362		639
7	858		362		

Technora A 8000U-050 70mm loops: XXXX
Technora A 8000U-050: XXXX
Technora A 8000U-070 70mm loops: XXXX

8	895		387	
9	738		691	
10	637		592	
11			304	

	AD	BD	CD	DD	BRD
1	973		880		2234
2	946		845		2182
3	722		864		2407
4	698		846		
5	880		842		
6	1419		1332		
7	4825				

	AP	BP	CP	DP	BRP
1	4831		4814		1900
2	4976		4927		1713
3	4756		4851		
4	810				

Technora A 8000U-070:	XXXX
Technora A 8000U-090:	XXXX
Technora A 8000U-120:	XXXX
Technora A 8000U-130:	XXXX
Technora A 8000U-200:	XXXX
Technora A 8000U-230:	XXXX
Technora A 8000U-280:	XXXX
Technora A 8000U-360:	XXXX
TSL00-0090-086:	XXXX
TSL00-0190-059:	XXXX

Load calculation

a5 & a4	a3	a2	a1	b5 & b4	c5	c4	c3	c2	c1	d5	d4	d3	br5	br4	br3	br2	br1
56	68.8	121	195.5	56	25.6	25.6	56	94.1	172	25.6	25.6	25.6	25.6	25.6	29.2	94.1	91.4
56	68.8			56	25.6	25.6							25.6				
56	68.8	121		56	25.6	25.6	56			25.6	25.6	25.6	25.6	25.6			
56	68.8			56	25.6	25.6							25.6				
56	68.8	121	195.5	56	25.6	25.6	56	94.1		25.6	25.6	25.6	25.6	25.6	29.2		
56	68.8			56	25.6	25.6							25.6				
56	57.9	94.1		29.2	25.6	25.6	56			25.6	25.6	25.6	25.6	25.6			
56	57.9			29.2	25.6	25.6							25.6				
56	57.9	94.1	121		25.6	25.6	56	68.8	121	25.6	25.6		25.6	25.6	29.2		
29.2					25.6								25.6				
29.2	56				25.6	25.6	56			25.6	25.6		25.6	25.6			
29.2					25.6								25.6				
25.6	25.6	29.2			25.6	25.6	56	68.8		25.6	25.6		25.6				
25.6	25.6				25.6												
25.6	25.6	29.2	38.7		25.6	25.6	56			25.6	25.6						
25.6	25.6				25.6												
					25.6	25.6	25.6	56	68.8								
					25.6	25.6											
					25.6	25.6	25.6										
					25.6	25.6											
					25.6	25.6	25.6	25.6									
					25.6	25.6	25.6										
					25.6	25.6	25.6										
					25.6	25.6	25.6			25.6	25.6						
694	744.9	609.6	550.7	394.4	614.4	512	601.6	407.4	361.8	230.4	230.4	102.4	332.8	153.6	87.6	94.1	91.4

Max weigh 130

	Sum A;B		14 x g x [max weight in flight]		
1	1825	>	1785.42	>	1400
2	2034				
3	2897.8				

Technora A 8000U-050:	25.6
Technora A 8000U-070:	29.2

4	3661.6
5	3866.4

Technora A 8000U-090:	**56**
Technora A 8000U-120:	**57.9**
Technora A 8000U-130:	**68.8**
Technora A 8000U-200:	**94.1**
Technora A 8000U-230:	**121**
Technora A 8000U-280:	**172**
Technora A 8000U-360:	**195.5**
Technora TSL 90:	**38.7**
Technora TSL 190:	**91.4**

The validation of this test report is given by the signature of the test manager on inspection certificate CCC Inspection certificate / 71.8.1 CCC

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Drawings

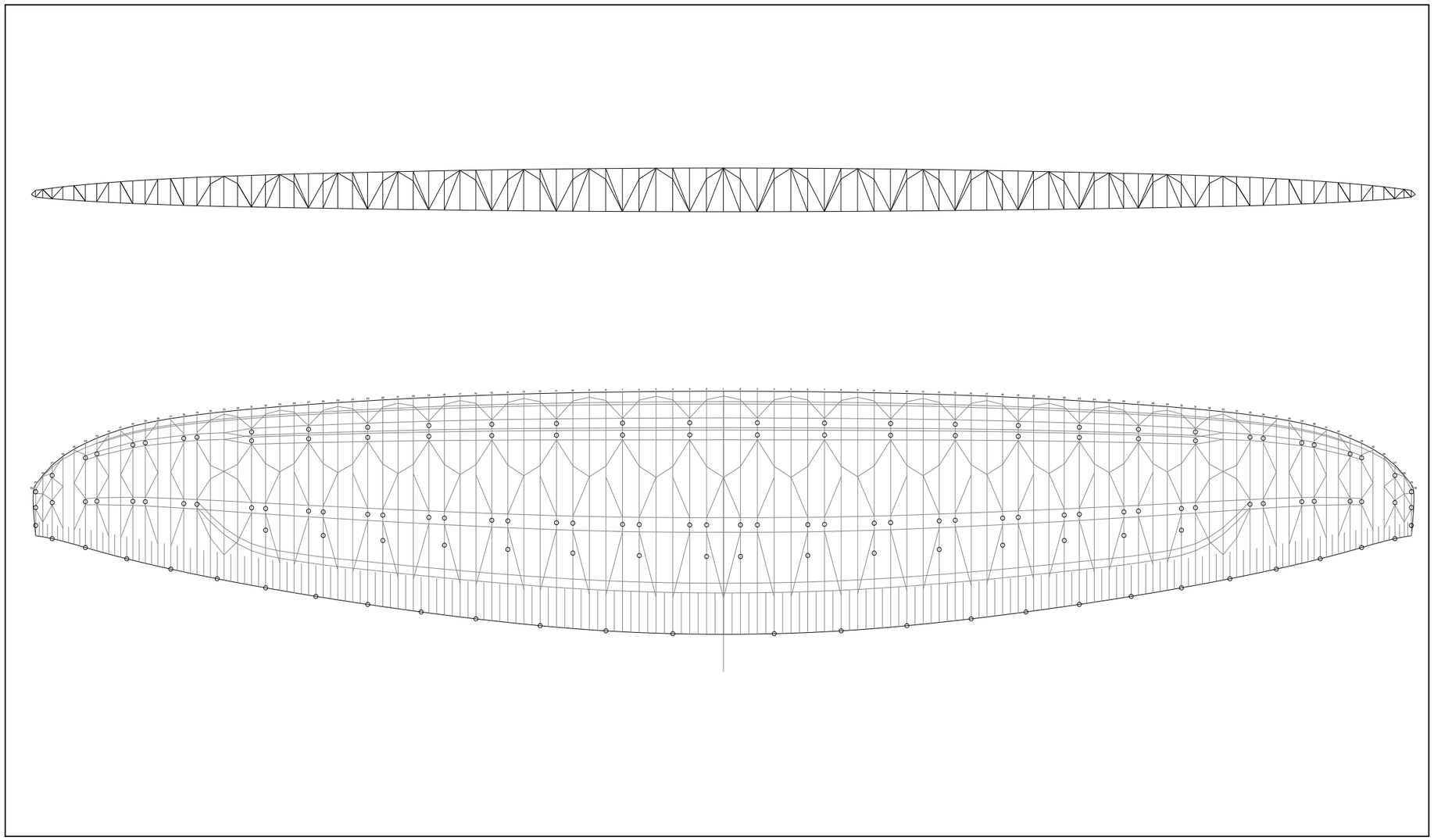
CCC 6

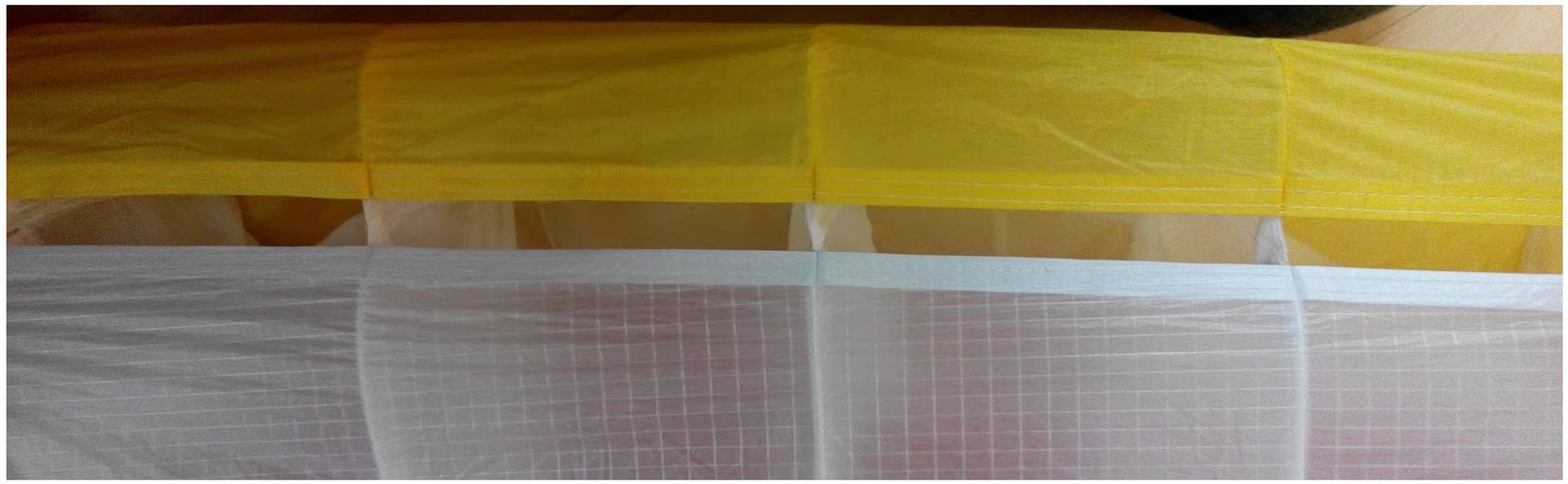
Test report ref. number: **CCC_015_2016**

Name:	**CODEN PRO**	Place:	**Villeneuve**	[C°]	**21.5**
Size:	**20**	Date of measurement:	**25.02.2016**	RH [%]	**45**
Maximum load [kg]:	**95**	Inspector:	**Gilles Berruex**	[hPa]	**1008**
Serial number:	**P-125031**				
Date of reception:	**02.12.2015**	Results:	**POSITIVE**		

CIVL COMPETITION CLASS | CCC / 2015 Edition / Revision 3.5 / CIVL 01 Sept 2014

Tension bands, Diagonals and internal structure, Mini rib position, Inlet shape





The validation of this test report is given by the signature of the test manager on inspection certificate CCC Inspection certificate / 71.8.1 CCC