Deutscher Hängegleiterverband e.V. im DAeC
DHV-Musterprüfstelle, Am Hoffeld 4, Gmund a.T.

Test report and Certificate of Compliance

CIVL CCC 2016, February
Paragliders permitted in FAI Category 1 Cross-Country events

I. Manufacturer

Company: **Gin Gliders Inc.**
Address: **285-1 GalDam-Ri, Mohyun-Myun, Yongin City, Kyunggi-Do, 17036 Korea**

II. Test Laboratory

Company: **Deutscher Hängegleiterverband e.V. im DAeC**
Address: **Am Hoffeld 4, 83703 Gmund am Tegernsee, Germany**

III. Test specimen

Model:	**Boomerang 11 XS**
Min. take off weight [kg]	**75**
Max. take off weight [kg]	**90**
Serial number (Manufacturer):	**BG02-Q82P0015P**
Test reference number (Test Laboratory):	**DHV CCC-008-17**

IV. Test pilots

Manufacturer:	**Idris Birch**
Test Laboratory:	**Beni Stocker**

V. Results of measurements program, checks and required drawings

Canopy dimension:	**See Measurement File**
LE & TE test (shape):	**Negative ☐ | Positive ☑**
Line attachment points:	**See Measurement File**
Line lengths:	**See Measurement File**
Riser set:	**See Measurement File**
Symmetric folding lines check	**Negative ☐ | Positive ☑**
Asymmetric folding line check:	**Negative ☐ | Positive ☑**
Folding line attachment points check:	**Negative ☐ | Positive ☑**

VI. Results of flight test program

Test manoeuvres	Negative	Positive
Manufacturer flight test programme according to section 9		☑
Test Laboratory flight test programme according to section 9		☑

VII. Results of stability test program

Shock load test (weak link) [daN]:	**800**
Date:	**15.06.2016**
Sustained load [daN]:	**987,0 (max. load over 3 seconds)**
Date:	**29.04.2016**
Damage:	**Yes ☐ | No ☑**
Calculated max. weight (W_{max}) [daN]:	**125,05**
All line samples > 20 daN:	**Yes ☑ | No ☐**

VIII. Additional material

Video recordings:	**Negative ☐ | Positive ☑**
Manufacturing record:	**Negative ☐ | Positive ☑**
User's manual:	**Revision: 1.1 | Date: March 2017**
	Negative ☐ | Positive ☑

IX. Certificate of Compliance

DHV certifies that the model compliance with all criteria defined in CCC, February 2016

Place, date, stamp and signature (manufacturer):	Editing notation Test Laboratory
Yongin, 2017-03-30 	Gmund, 30.03.2017, Beni Stocker

Measurement request from test house for CCC certification
From February 2016

Brand	Gin Gliders Inc.	**Test house name**	DHV
Model	Boomerang 11	**CCC certification n°**	DHV CCC-008-17
Size	XS	**Certification date**	30.03.2017
Serial n°	BG02-Q82P0015P		

Canopy dimensions

Position	Rib n° from center	Distance [mm]	Tension [daN]	Manual tolerances	Aspect ratio < 7.90 4*span / (chord A+2.5*Chord B)	
Full Span	x	12435	5	+/-2%	7,70	
1/2 Trailing Edge	x	6350	5	+/-1%		
Chord A	1	2020	1	+/-1%		
Chord B	22	1775	1	+/-1%	Scale factor	1

Number cells
109

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

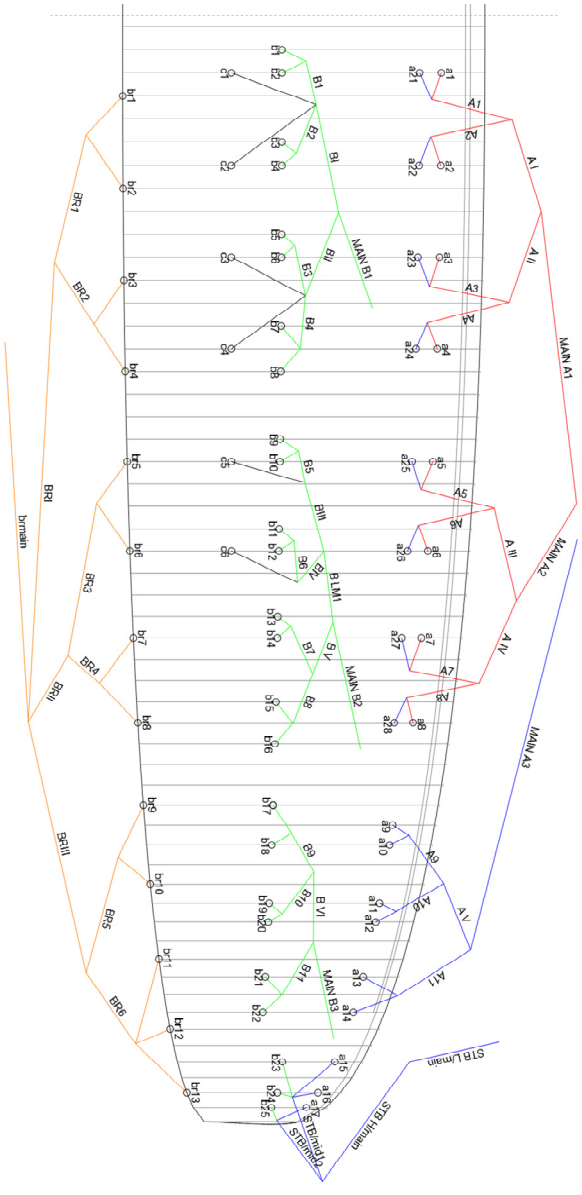
(The tab A & B & C can be on different rib, take care to specify it)

On first lined rib (from center)	Rib n° from center	Distance [mm]	Tension [daN]	Manual tolerances
Chord	2	2010	1	+/-1%
Top of inlet	2	1931	1	+/-1%
Bottom of inlet	2	1895	1	+/-1%
Tab Aa*	3	1750	1	+/-10mm
Tab Ab*	3	1630	1	+/-10mm
Tab B*	2	887	1	+/-10mm
Tab C*	3	606	1	+/-10mm

On last lined rib of Group 2 (from center)	Rib n° from center	Distance [mm]	Tension [daN]	Manual tolerances
Chord	32	1502	1	+/-1%
Top of inlet	32	1442	1	+/-1%
Bottom of inlet	32	1418	1	+/-1%
Tab Aa*	32	1315	1	+/-10mm
Tab Ab*	32	1227	1	+/-10mm
Tab B*	33	652	1	+/-10mm
Tab C*	24	522	1	+/-10mm

On last lined rib (stabilo, from center)	Rib n° from center	Distance [mm]	Tension [daN]	Manual tolerances
Chord	53	540	1	+/-1%
Tab A*	53	466	1	+/-10mm
Tab B*	53	325	1	+/-10mm

*Bridle (tab) position measuremt:
end of trailing edge to center bridle (tab)



ABSOLUTE LINE LENGHT

Absolute line length from bottom riser to canopy in mm with 5daN of tension (Manual tolerances +/-10mm)

Lined Rib n°	A1			A2			B		
	Manual	Glider	Delta	Manual	Glider	Delta	Manual	Glider	Delta
1	7897	7888	-9	7870	7860	-10	7907	7907	0
2	7784	7777	-7	7755	7749	-6	7850	7842	-8
3	7749	7741	-8	7720	7711	-9	7749	7744	-5
4	7796	7788	-8	7770	7762	-8	7739	7735	-4
5	7715	7706	-9	7689	7680	-9	7714	7713	-1
6	7598	7591	-7	7574	7565	-9	7701	7703	2
7	7552	7543	-9	7529	7519	-10	7736	7745	9
8	7571	7561	-10	7554	7545	-9	7813	7822	9
9	7408	7399	-9				7732	7722	-10
10	7368	7360	-8				7676	7667	-9
11	7287	7284	-3				7580	7583	3
12	7281	7276	-5				7573	7576	3
13	7220	7214	-6				7534	7538	4
14	7214	7205	-9				7520	7523	3
15	7056	7062	6				7538	7547	9
16	7011	7017	6				7594	7603	9
17	7006	7009	3				7428	7429	1
18							7343	7340	-3
19							7268	7263	-5
20							7263	7253	-10
21							7207	7199	-8
22							7204	7196	-8
23							7059	7064	5
24							7033	7038	5
25							7026	7026	0

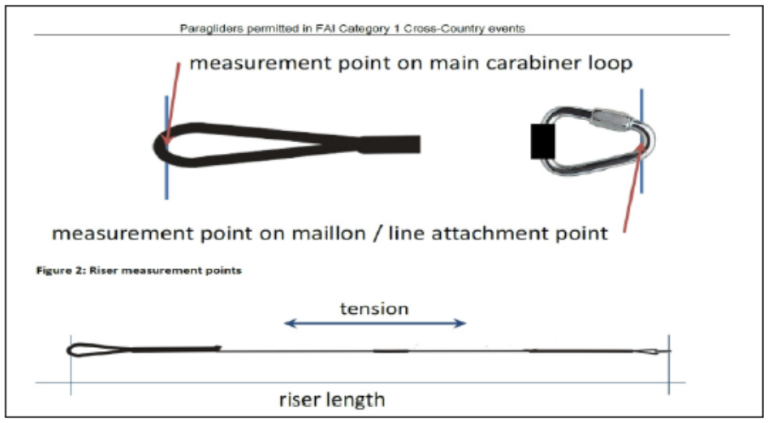
Lined Rib n°	C		
	Manual	Glider	Delta
1	7932	7927	-5
2	7822	7823	1
3	7783	7792	9
4	7842	7850	8
5	7759	7760	1
6	7655	7657	2

Riser length

From bottom riser to top maillon on each branche in mm with 5daN (Manual tolerances +/-5mm)

Trimm speed setting	A1	A3	Stabi	B	Δt (= A1-B)	Attachment rod diameter [mm]
Manual	520	495	510	520	0	10
Glider	520	493	512	521	-1	

Full speed setting	Δa (=B-A1)	B-A3	Total speed Range (Δa+Δt)
Manual	140	120	140
Glider	142	119	141



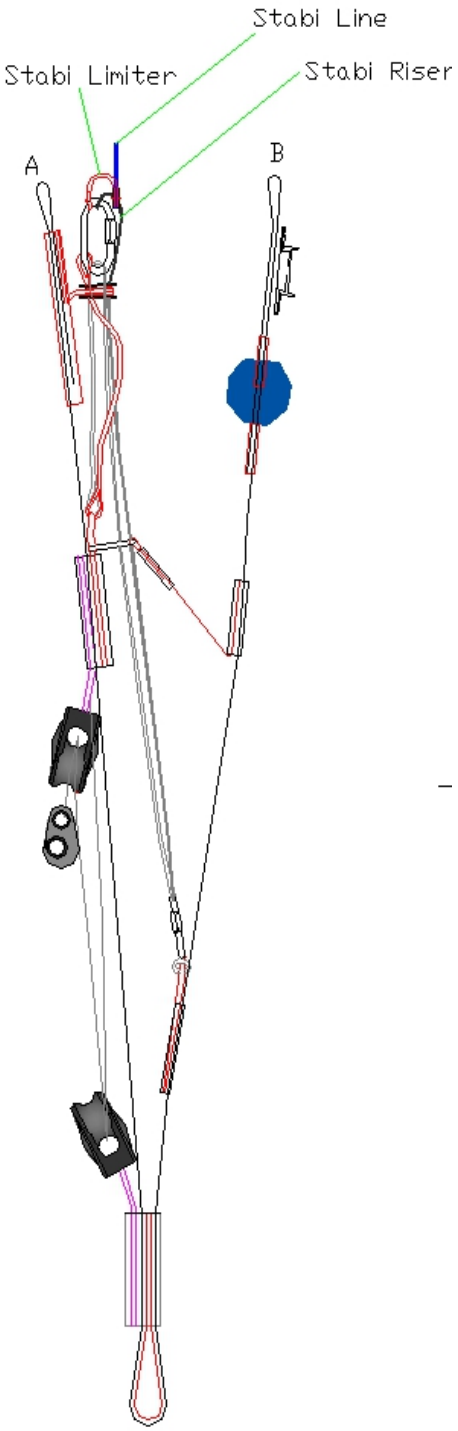


Table of lines quality

Upper

	A1		A2		B		C		BR	
1	Edlerid	8000/U-090	Edlerid	8000/U-090	Edlerid	8000/U-050	Edlerid	8000-025	Edlerid	8000-025
2	Edlerid	8000/U-070	Edlerid	8000/U-050	Edlerid		Edlerid		Edlerid	
3	Edlerid	8000/U-050	Edlerid		Edlerid		Edlerid		Edlerid	
4	Edlerid	8000/U-070	Edlerid		Edlerid		Edlerid		Edlerid	
5	Edlerid	8000/U-090	Edlerid		Edlerid		Edlerid		Edlerid	
6	Edlerid	8000/U-070	Edlerid		Edlerid		Edlerid		Edlerid	
7	Edlerid	8000/U-050	Edlerid		Edlerid		Edlerid		Edlerid	
8	Edlerid	8000/U-070	Edlerid		Edlerid				Edlerid	
9	Edlerid	8000/U-050			Edlerid				Edlerid	
10	Edlerid				Edlerid				Edlerid	
11	Edlerid				Edlerid	8000-025			Edlerid	
12	Edlerid				Edlerid				Edlerid	
13	Edlerid				Edlerid				Edlerid	
14	Edlerid				Edlerid					
15	Edlerid	8000-025			Edlerid					
16	Edlerid				Edlerid					
17					Edlerid					
18					Edlerid					
19					Edlerid					
20					Edlerid					
21					Edlerid					
22					Edlerid					
23					Edlerid					
24					Edlerid					
25					Edlerid					

H/middle

	A		B		BR H/Middle	
1	Edlerid	8000/U-130	Edlerid	8000/U-050	Edlerid	800-025
2	Edlerid		Edlerid		Edlerid	
3	Edlerid	8000/U-090	Edlerid		Edlerid	
4	Edlerid	8000/U-130	Edlerid		Edlerid	
5	Edlerid	8000/U-090	Edlerid		Edlerid	
6	Edlerid		Edlerid		Edlerid	
7	Edlerid	8000/U-070	Edlerid			
8	Edlerid		Edlerid			
9	Edlerid		Edlerid			
10	Edlerid	8000/U-050	Edlerid			
11	Edlerid		Edlerid			
STB/mid1			Edelrid	8000-025		
STB/mid2			Edelrid			

Middle

	A		B		BR L/Middle	
1	Edlerid	8000/U-190	Edlerid	8000/U-090	Edlerid	8000/U-050
2	Edlerid		Edlerid		Edlerid	
3	Edlerid		Edlerid		Edlerid	
4	Edlerid	8000/U-130	Edlerid	8000/U-070		
5	Edlerid		Edlerid			
6			Edlerid	8000/U-050		

L/Middle

	B	
1	Edlerid	8000/U-090

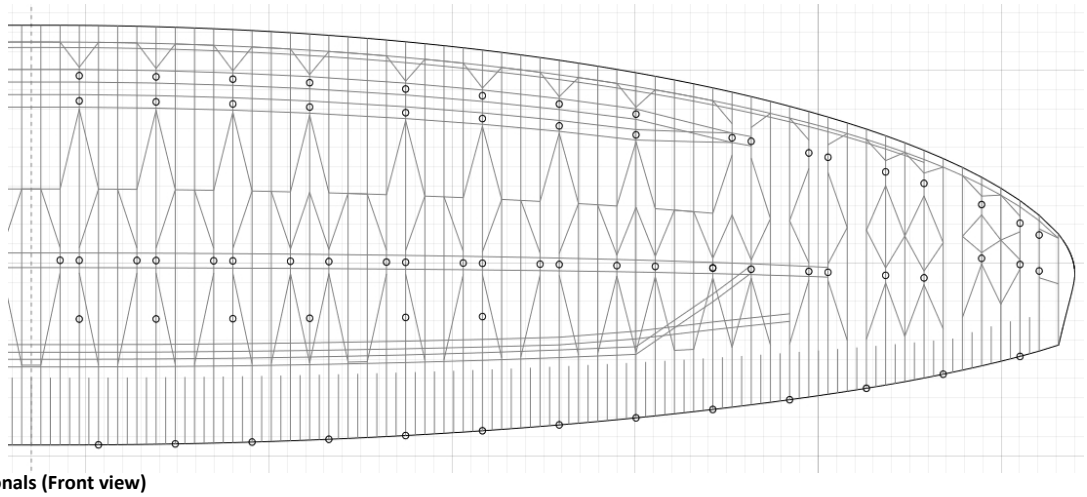
Main

	A		B		BR H/Main	
1	Edlerid	8000/U-360	Edlerid	8000/U-190	Edelrid	8000/U-090
2	Edlerid		Edlerid	8000/U-130	**BR L/Main**	
3	Edlerid	8000/U-190	Edlerid	8000/U-050	Liros	PPSL160
STB H/Main	Edlerid	8000/U-050				
STB L/Main	Liros	DSL70				

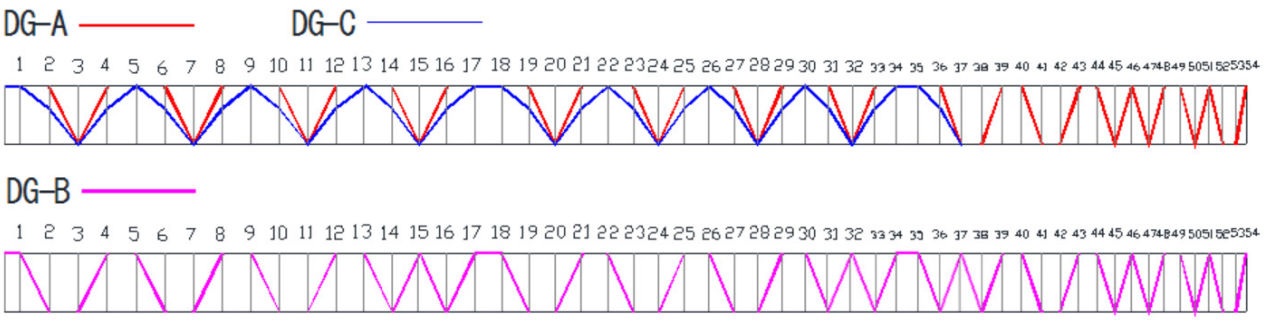
Upper and lower line loop reinforcement: all Edelrid 8000 lines have upper and lower reinforcements

Other pictures & drawings requested from test House

Diagonals, Hstraps and Mini Ribs (top view)



Diagonals (Front view)



Vent (Inlet) shape