

ORC
Offshore Racing Congress
World leader in rating technology

2019
ORC Club
Certificate

Rating Office

EYU
Purje 8
11911, Tallinn
Estonia

Certificate

Number **EST711**
Issued On **9/6/2019**
ORC Ref **EST00000863**
VPP Ver. **2019 1.01**
Valid until **12/31/2019**

Crew Weight

Default 720kg
Maximum **710kg**
Minimum* **533kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	609.8	0.9839
Double H.OSN	595.0	1.0085
Non Spin GPH	634.5	0.9456
Non Spin OSN	616.1	0.9738

Sails Limitations

Headsails **5** Spinnakers **3**

Spinnaker configuration

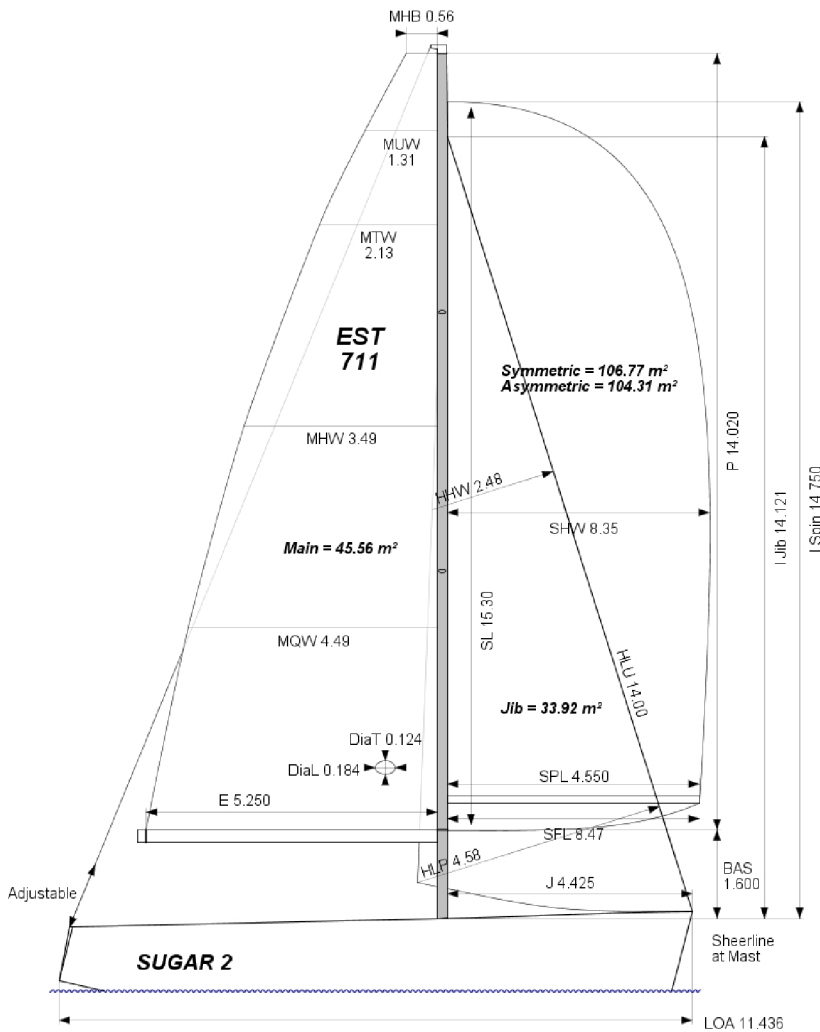
Symmetric: **Yes** 106.77
Asymmetric: **Yes** 104.31
Flying H/S: **No**
Spin. Pole: **Yes**

Class Division Length

CDL = 9.775

Stability (Measured)

Limit Positive Stab.: **111.3°**
Stability Index: **112.6**



BOAT		GPH		HULL			
Name SUGAR 2 Sail Nr EST-711		600.2		Data File Est0711	LOA 11.436m		
				Offset File NM38SNSK-1a	MB 3.566m		
				Displacement 5,756kg	Draft 2.020m		
				IMS Division Cruiser/Racer	Dynamic All. 0.138%		
				Fwd Accom. Yes	Construction Cored		
				Fiber Rigging No	Aramid Core No		
				Crew Arm Ex	Carbon Rudder Yes		
					Light Stanchions		
				IMSL 10.564m	VCGD 0.095m	Sink 22.20kg/mm	
				RL 8.985m	VCGM 0.203m	WS 27.67m²	
				LSM0 10.318m	Displacement/Length ratio 5.2400		
				Water Ballast 0	Trim Tab No		
				BLR Index 0.0000			
COMMENTS				CENTERBOARD			
				N/A			
PROPELLER							
Installation	Strut	PRD	0.405				
Type	Folding 2 blades	PBW	0.108				
		PIPA	0.0029				
SCORING OPTIONS							
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD			
Time on Distance	584.0			655.9			
Time on Time	1.0274			1.0291			
Triple Number	Low	Medium	High	Low	Medium	High	
Time on Distance	690.6	530.6	473.2	898.6	657.5	573.2	
Time on Time	0.9774	1.2722	1.4265	0.7512	1.0266	1.1776	

BOAT	
Name SUGAR 2	Sail Nr EST-711
File Est0711	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 29/08/2018		SG 1.0000	
FFM 1.410	FF 1.417	SFFP 0.550	
FAM 1.136	FA 1.143	SAFP 11.190	
W1 90.0	PD1 526.9	WD 11.470	
W2 90.0	PD2 526.6	GSA 1.0	
W3 90.0	PD3 527.2	RSA 1.0	
W4 90.0	PD4 526.5	PLM 9000.0	
LCF from stem on CL / on sheer		6.310 / 6.545	
Maximum beam station from stem		7.900	
RM Measured		154.3kg·m	
RM Default		158.3kg·m	
Limit of positive stability / Stab.Index		111.3° / 112.6	
Freeboard at mast at 4.425		1.307	



2019
Measurements
Datasheet

RIG			
Forestay Tension Aft	Spreaders 2		
Inner Stay None Fitted	Runners 0		
Carbon Mast Yes	Jumper Struts None		
Taper Hollows No	Jib Furler No		
Fiber Rigging No	Main Furler No		
Lenticular Rigging No	Without Backstay No		
Articulated Bowsprit No			
P 14.020	E 5.250	MDT1 0.124	MW 0.178
IG 14.121	J 4.425	MDL1 0.184	GO 0.190
ISP 14.750	SFJ 0.000	MDT2 0.124	BD 0.230
BAS 1.600	SPL 4.550	MDL2 0.168	MWT 171.80
FSP 0.088	TPS	TL 1.400	MCG 5.705

MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.405		
Type Folding 2 blades	PBW 0.108		
Twin Screw No	PIPA 0.0029		
ST1 0.051	ST3 0.200	ST5 0.335	
ST2 0.170	ST4 0.088	EDL 2.110	

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COMMENTS	

MOVABLE BALLAST	
N/A	

CENTERBOARD	
N/A	

SAILS INVENTORY																
MAINSAIL (1)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
K	0.56	1.31	2.13	3.49	4.49	45.56	EST 5	09/06/2018	Onesails	Unknown	P14,02;E5,25					
HEADSAILS (6)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
B	0.13	0.73	1.35	2.48	3.57	4.58	14.00	104%	33.92	Y		EST 5	09/06/2018	OneSails	Unknown	Jib Top
A	0.13	0.82	1.51	2.55	3.49	4.44	13.91	100%	33.87	Y		EST 5	09/06/2018	Onesails	Unknown	Jib XL
C	0.11	0.83	1.51	2.55	3.48	4.42	13.92	100%	33.82	Y		EST 5	09/06/2018	OneSails	Unknown	Jib L
G	0.12	0.79	1.42	2.45	3.47	4.42	14.03	100%	33.47			ITA160	02/05/2018	OneSails	Unknown	Jib M
H	0.13	0.65	1.16	2.18	3.23	4.29	14.04	97%	30.76			ITA160	09/05/2018	OneSails	Unknown	Jib H
V	0.07	0.45	0.95	1.68	2.56	3.50	12.77	79%	22.19			Sizil	25/05/2015	North	Unknown	Staysail
SYMMETRIC SPINNAKERS (2)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
B	15.30	15.30	15.30	8.35	8.47	106.77	EST 5	09/06/2018	OneSails	Unknown	S1					
C	14.89	14.89	14.89	8.62	8.41	106.44	EST 5	09/06/2018	OneSails	Unknown	S2					
ASYMMETRIC SPINNAKERS (1)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
A1,5	15.37	14.30	14.84	8.53	8.07	104.32	asym			North	Unknown					

MEASUREMENT INVENTORY				
Measurer Karl-Hannes Tagu EST 7				
Date 29/08/2018				
Comment Tallinn-Pirita				
Id	Item	Weight	Distance	VCG Description
1	Engine			Lombardini 30HP
Id	Item	Weight	Distance	VCG Description

MEASUREMENT INVENTORY							
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condn Description
1	Tank	Diesel	St.steel	60.0	9.04		6-0
2	Tank	Water	St.steel	80.0	8.24		0-0
Id	Item	Weight	Distance	VCG Description			
1	Ballast	93.0	8.80	3 lead bal. 31kg, 32kg, 30kg			
1	Battery	16.0	7.94				
2	Battery	42.0	8.24	2 service batteries			
1	Misc		6.00	Stove (without oven)			
2	Misc		11.00	Heater Webasto			

2009

ORC Club Certificate Appendix

BOAT	
Name SUGAR 2	Certificate Number EST711
Sail Nr EST-711	Issued On 9/6/2019

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1039.0	852.3	748.0	704.5	689.6	685.1	676.4
52°	671.9	562.3	505.7	484.9	478.3	475.5	469.2
60°	629.7	533.9	489.3	470.9	463.8	460.5	455.2
75°	597.6	513.6	477.7	458.2	444.6	437.2	431.7
90°	603.5	505.3	468.9	455.4	437.1	420.3	401.6
110°	598.1	499.1	460.5	435.0	415.4	402.7	383.5
120°	616.3	510.0	466.4	438.8	411.7	388.4	361.4
135°	687.9	556.4	488.5	456.9	430.2	403.5	351.3
150°	820.3	654.3	549.9	488.4	458.8	434.2	385.6
Run VMG	947.2	755.6	634.9	557.3	508.3	472.4	424.6
Selected Courses							
Windward / Leeward	993.1	803.9	691.5	630.9	599.0	578.8	550.5
Circular Random	828.5	667.9	582.0	532.4	502.1	482.1	455.9
Coastal / Long Distance	988.5	753.3	622.1	550.2	512.6	482.2	433.1
Non Spinnaker	890.3	711.5	614.4	557.5	522.5	499.7	470.8

Velocity Prediction in Knots for True Wind Speeds							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	43.7°	42.4°	41.3°	40.3°	39.8°	39.8°	40.7°
Beat VMG	3.46	4.22	4.81	5.11	5.22	5.25	5.32
52°	5.36	6.40	7.12	7.42	7.53	7.57	7.67
60°	5.72	6.74	7.36	7.64	7.76	7.82	7.91
75°	6.02	7.01	7.54	7.86	8.10	8.23	8.34
90°	5.96	7.12	7.68	7.91	8.24	8.57	8.96
110°	6.02	7.21	7.82	8.28	8.67	8.94	9.39
120°	5.84	7.06	7.72	8.21	8.74	9.27	9.96
135°	5.23	6.47	7.37	7.88	8.37	8.92	10.25
150°	4.39	5.50	6.55	7.37	7.85	8.29	9.34
Run VMG	3.80	4.76	5.67	6.46	7.08	7.62	8.48
Gybe Angles	140.6°	148.1°	148.8°	156.1°	170.3°	180.0°	180.0°