



ORC

Offshore Racing Congress
World leader in rating technology

**2019
ORC Club
Certificate**

Rating Office

**EYU
Purje 8
11911, Tallinn
Estonia**

Certificate

Number **EST112**
Issued On **9/5/2019**
ORC Ref **EST0000862**
VPP Ver. **2019 1.01**
Valid until **12/31/2019**

Crew Weight

Default 674kg
Maximum **720kg**
Minimum* **540kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

ToD ToT
Double H.GPH **609.6 0.9843**
Double H.OSN **596.1 1.0065**
Non Spin GPH **634.7 0.9453**
Non Spin OSN **616.9 0.9725**

Sails Limitations

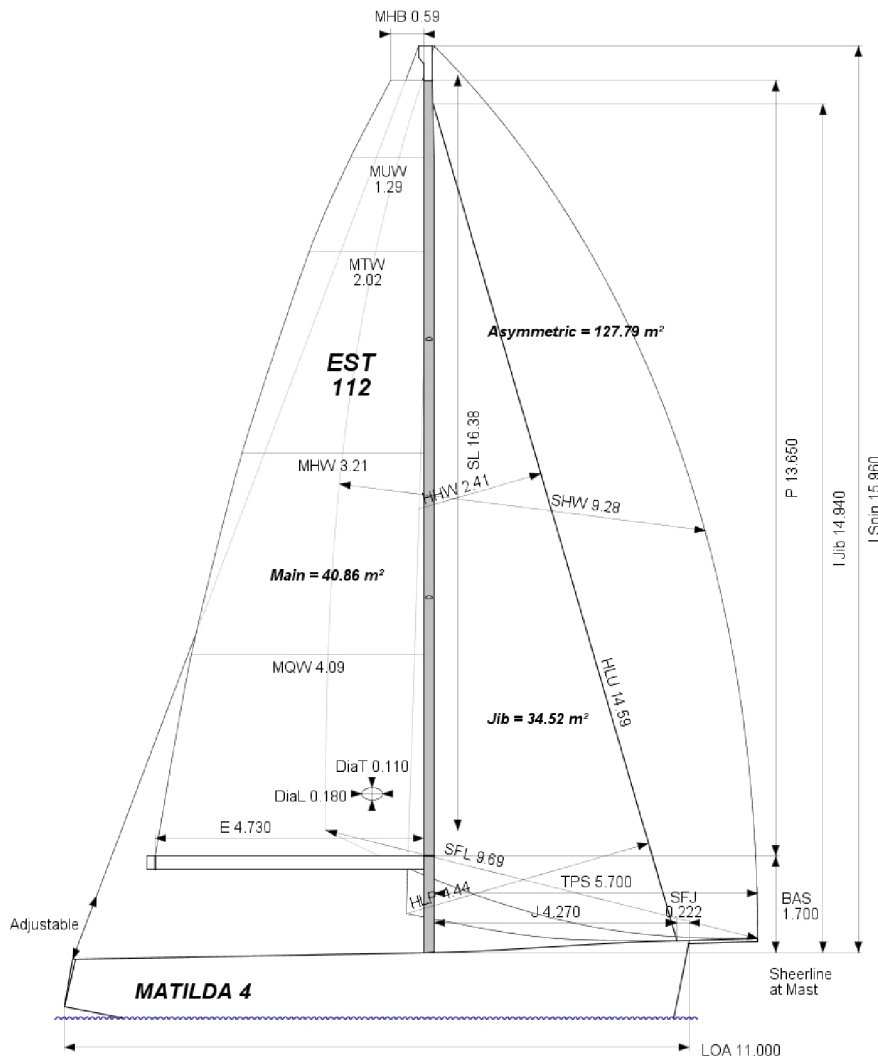
Headsails **5** Spinnakers **3**
Asymmetric on centerline
Spinnaker configuration
Symmetric: **No**
Asymmetric: **Yes 127.79**
Flying H/S: **No**
Spin. Pole: **Yes**

Class Division Length

CDL = 9.557

Stability (Measured)

Limit Positive Stab.: **115.7°**
Stability Index: **114.9**



BOAT Name Matilda 4 Sail Nr EST-112		GPH 596.8	HULL Data File Est0112 LOA 11.000m Offset File J112E NK.off MB 3.596m Displacement 5,170kg Draft 2.043m		
CLASS Class J-112E Designer JOHNSTONE Builder J-BOATS Series 10/2015 Age Date 07/2019 Age Allowance 0.130%		IMS Division Cruiser/Racer Dynamic All. 0.104% Fwd Accom. Yes Construction Cored Fiber Rigging No Aramid Core No Crew Arm Ex Carbon Rudder No Light Stanchions No			
COMMENTS		IMSL 10.038m VCGD 0.098m Sink 18.79kg/mm RL 9.074m VCGM 0.060m WS 25.56m² LSM0 9.851m Displacement/Length ratio 5.4082			
PROPELLER Installation Strut PRD 0.380 Type Folding 2 blades PBW 0.100 PIPA 0.0031		CENTERBOARD N/A			
SCORING OPTIONS					
	COASTAL / LONG DISTANCE	WINDWARD / LEEWARD			
Time on Distance	581.7	655.0			
Time on Time	1.0315	1.0305			
Triple Number	Low Medium High	Low	Medium	High	
Time on Distance	676.2 530.1 479.2	876.2	655.3	583.5	
Time on Time	0.9982 1.2734 1.4087	0.7704	1.0301	1.1568	

BOAT	
Name Matilda 4	Sail Nr EST-112
File Est0112	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 12/07/2019		SG 1.0000	
FFM 1.338	FF 1.345	SFFP 0.488	
FAM 1.020	FA 1.028	SAFP 10.805	
W1 80.2	PD1 675.6	WD 12.560	
W2 80.2	PD2 677.7	GSA 1.0	
W3 80.2	PD3 678.0	RSA 1.0	
W4 80.2	PD4 679.6	PLM 9000.0	
LCF from stem on CL / on sheer		5.920 / 6.165	
Maximum beam station from stem		6.647	
RM Measured		117.0kg·m	
RM Default		126.9kg·m	
Limit of positive stability / Stab.Index		115.7° / 114.9	
Freeboard at mast at 4.492		1.149	



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 13.650	E 4.730	MDT1 0.110	MW 0.173
IG 14.940	J 4.270	MDL1 0.180	GO 0.198
ISP 15.960	SFJ 0.222	MDT2 0.102	BD 0.237
BAS 1.700	SPL 4.820	MDL2 0.146	MWT 108.50
FSP 0.076	TPS 5.700	TL 1.460	MCG 4.470

MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.380		
Type Folding 2 blades	PBW 0.100		
Twin Screw No	PIPA 0.0031		
ST1 0.065	ST3 0.180	ST5 0.300	
ST2 0.180	ST4 0.090	EDL 2.130	

Certificate	
Number EST112	
ORC Ref EST00000862	
Issued On 9/5/2019	
VPP Ver. 2019 1.01	
Valid until 12/31/2019	

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					
1a	0.59	1.29	2.02	3.21	4.09	40.86	EST7	20/07/2019	One sails	Unknown	2019					
HEADSAILS (4)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1a	0.16	0.79	1.39	2.41	3.42	4.44	14.59	104%	34.52	Y	N	EST7	20/07/2019	One sails	Unknown	J1
2a	0.17	0.77	1.37	2.37	3.40	4.44	14.62	104%	34.32	Y		EST7	20/07/2019	One Sails	Unknown	J2
4	0.05	0.87	1.76	3.30	4.23	4.62	12.00	108%	34.12	N	Y	EST7	02/07/2019	One Sails	Unknown	Staysail
3	0.13	0.51	0.97	1.99	3.13	4.33	13.79	101%	28.74	Y		SLO3	03/05/2019	One sails	Unknown	J3
SYMMETRIC SPINNAKERS (0)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
ASYMMETRIC SPINNAKERS (3)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
3	17.66	15.10	16.38	9.28	9.69	127.80	asym	SLO03	03/09/2019		Unknown					
2a	17.23	15.00	16.12	8.80	9.33	119.61	asym	EST7	20/07/2019	One sails	Unknown	A1				
1	16.31	15.05	15.68	5.42	7.22	75.53	asym	SLO03	16/05/2019	One Sails	Unknown	A0				

MEASUREMENT INVENTORY				
Measurer K-H.Tagu EST7				
Date 12/07/2019				
Comment Pirita				
Id	Item	Weight	Distance	VCG Description
1	Engine			Volvo Penta D1-20
Id	Item	Weight	Description	

MEASUREMENT INVENTORY								
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condn	Description
2	Tank	Fuel	plastic	80.0	8.27			±3.0 Starport aft cabin
1	Tank	Water	Neopren bag	100.0	2.00			0-0 At the bow
Id	Item	Weight	Distance	VCG	Description			
7	Ballast	150.0	5.77		Lot of pieces			
6	Ballast	85.0	5.22		6pcs (18+17+8+17+12,5+12,5)			
5	Ballast	34.0	4.72		2pcs (17+17kg) centerline			
4	Ballast	60.0	5.22		3pcs (25+18+17kg) portside			
3	Ballast	15.0	4.67		15kg portside			
1	Battery		4.73		2x165ah starport side			
2	Misc		10.00		Autopilot			
1	Misc		8.27		Air heater, port aft cabin			

2009

ORC Club Certificate Appendix

BOAT	
Name Matilda 4	Certificate Number EST112
Sail Nr EST-112	Issued On 9/5/2019

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1012.9	832.5	735.8	701.0	687.8	681.7	669.8
52°	659.4	553.7	506.2	490.2	484.3	481.6	474.1
60°	621.0	529.8	492.4	476.9	470.4	467.1	460.3
75°	592.2	513.3	482.1	463.9	450.8	443.2	437.1
90°	594.6	503.5	478.4	460.6	442.3	426.3	406.7
110°	582.7	494.0	460.9	438.9	424.0	414.1	390.2
120°	596.6	500.5	464.1	435.4	409.8	393.2	368.0
135°	674.2	539.8	483.1	453.7	424.9	397.2	339.5
150°	799.4	637.8	537.9	488.2	466.9	445.1	394.7
Run VMG	923.0	736.5	621.2	563.3	536.4	495.6	448.7
Selected Courses							
Windward / Leeward	967.9	784.5	678.5	632.1	612.1	588.7	559.3
Circular Random	815.0	660.4	579.1	533.3	505.7	487.1	460.4
Coastal / Long Distance	963.5	736.2	613.7	550.9	518.4	488.7	439.8
Non Spinnaker	886.1	710.0	614.9	559.4	525.3	502.8	473.4

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	43.0°	41.6°	40.4°	39.1°	38.7°	38.8°	39.0°
Beat VMG	3.55	4.32	4.89	5.14	5.23	5.28	5.37
52°	5.46	6.50	7.11	7.34	7.43	7.48	7.59
60°	5.80	6.80	7.31	7.55	7.65	7.71	7.82
75°	6.08	7.01	7.47	7.76	7.99	8.12	8.24
90°	6.05	7.15	7.52	7.82	8.14	8.45	8.85
110°	6.18	7.29	7.81	8.20	8.49	8.69	9.23
120°	6.03	7.19	7.76	8.27	8.78	9.16	9.78
135°	5.34	6.67	7.45	7.94	8.47	9.06	10.60
150°	4.50	5.64	6.69	7.37	7.71	8.09	9.12
Run VMG	3.90	4.89	5.80	6.39	6.71	7.26	8.02
Gybe Angles	143.6°	147.2°	148.1°	150.8°	152.3°	176.6°	177.1°