

BOAT Name KATARIINA II Sail Nr EST 949	GPH 596.7	HULL Length Overall 11.110m Maximum Beam 3.524m Displacement 5,615kg Draft 2.024m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.072% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder Yes Crew Arm Extension
GENERAL Class ONE OFF Designer COSSUTTI MAURIZIO Builder RIDAS YACHT OÜ Series 07/2017 Age 07/2017 Age Allowance 0.065% Offset File E949-19.off - 4/19/2019 7:16:39 PM Measurement by Tetsmann/Pindoizzi - 22/07/2019		IMSL 10.313m VCGD -0.094m Sink 20.79kg/mm RL 9.100m VCGM -0.033m WS 27.16m² LSMO 10.272m Displacement/Length ratio 5.1807



2019
ORC International
Certificate

Rating Office
EYU
Purje 8
11911, Tallinn
Estonia

SCORING OPTIONS						
Time on Distance	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	580.6			650.9		
Time on Time	1.0333			1.0371		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	682.6	529.0	471.3	884.8	652.8	570.2
Time on Time	0.9888	1.2761	1.4321	0.7629	1.0340	1.1838

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1018.1	839.2	740.4	700.0	684.2	678.3	668.6
52°	661.0	556.4	504.7	484.7	477.8	474.7	469.5
60°	621.6	530.4	489.9	471.8	464.0	460.2	455.7
75°	592.0	512.2	479.5	460.1	445.2	436.3	429.4
90°	598.5	506.8	470.9	456.2	438.9	421.3	399.1
110°	595.1	499.1	462.5	436.2	413.4	400.2	378.8
120°	612.2	508.5	468.0	440.1	412.5	387.3	355.7
135°	681.5	552.4	488.4	458.1	431.1	404.4	350.7
150°	810.8	645.9	545.7	488.2	460.0	435.2	386.5
Run VMG	936.2	745.8	630.1	555.8	508.0	473.6	425.7

Certificate
Number **EST949**
ORC Ref **EST00000789**
Issued On **7/27/2019**
VPP Ver. **2019 1.01**
Valid until **12/31/2019**

Crew Weight
Default **715kg**
Maximum **735kg**
Minimum* **551kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring
ToD ToT
Double H.GPH **606.0 0.9901**
Double H.OSN **590.9 1.0154**
Non Spin GPH **631.7 0.9498**
Non Spin OSN **614.0 0.9773**

Selected Courses							
Windward / Leeward	977.2	792.5	685.3	627.9	596.1	576.0	547.2
Circular Random	820.4	663.0	579.0	530.4	500.4	480.3	453.1
Coastal / Long Distance	973.1	743.6	618.1	549.0	511.8	481.0	430.7
Non Spinnaker	882.8	707.2	611.9	556.2	521.6	498.9	469.6

Sails Limitations
Headsails **5** | Spinnakers **3**

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	43.4°	41.9°	40.8°	39.8°	39.1°	39.0°	40.0°
Beat VMG	3.54	4.29	4.86	5.14	5.26	5.31	5.38
52°	5.45	6.47	7.13	7.43	7.53	7.58	7.67
60°	5.79	6.79	7.35	7.63	7.76	7.82	7.90
75°	6.08	7.03	7.51	7.82	8.09	8.25	8.38
90°	6.01	7.10	7.64	7.89	8.20	8.55	9.02
110°	6.05	7.21	7.78	8.25	8.71	9.00	9.50
120°	5.88	7.08	7.69	8.18	8.73	9.30	10.12
135°	5.28	6.52	7.37	7.86	8.35	8.90	10.27
150°	4.44	5.57	6.60	7.37	7.83	8.27	9.31
Run VMG	3.85	4.83	5.71	6.48	7.09	7.60	8.46
Gybe Angles	140.9°	147.6°	149.2°	156.6°	172.7°	180.0°	180.0°

Class Division Length
CDL = **9.707**

Storm Sails Areas
Heavy Weather Jib **29.27**
Storm Jib (JL=9.58) **10.84**
Storm Trysail **12.76**

Owner
Aivar Tuulberg
Sõbra 54, Tartu
Estonia
Pärnu JK

I certify that I understand my responsibilities under ORC Rules and Regulations
Signature

BOAT	
Name KATARIINA II	Sail Nr EST 949
File Est0949	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 12/04/2019		SG 1.0020	
FFM 1.265	FF 1.272	SFFP 0.000	
FAM 0.657	FA 0.663	SAFP 11.110	
W1 84.7	PD1 533.7	WD 12.480	
W2 84.7	PD2 535.5	GSA 1.0	
W3 84.7	PD3 536.2	RSA 1.0	
W4 84.7	PD4 534.3	PLM 9000.0	
LCF from stem on CL / on sheer		6.209 / 6.432	
Maximum beam station from stem		8.000	
RM Measured		155.6kg·m	
RM Default		159.6kg·m	
Limit of positive stability / Stab.Index		122.0° / 122.8	
Freeboard at mast at 4.645		1.202	



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RIG			
Forestay Tension Aft & Forward	Spreaders 2		
Inner Stay None Fitted	Runners 0		
Carbon Mast Yes	Jumper Struts None		
Taper Hollows No	Jib Furler No		
Fiber Rigging Yes	Main Furler No		
Lenticular Rigging No	Without Backstay No		
Articulated Bowsprit No			
P 14.070	E 5.180	MDT1 0.120	MW 0.208
IG 14.640	J 4.410	MDL1 0.208	GO 0.233
ISP 15.150	SFJ 0.235	MDT2 0.108	BD 0.290
BAS 1.715	SPL 4.645	MDL2 0.135	MWT 132.80
FSP 0.076	TPS 5.355	TL 0.920	MCG 4.360

MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.406		
Type Folding 2 blades	PBW 0.113		
Twin Screw No	PIPA 0.0036		
ST1 0.050	ST3 0.180	ST5 0.307	
ST2 0.180	ST4 0.112	EDL 1.945	

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COMMENTS	

MOVABLE BALLAST	
N/A	

CENTERBOARD	
N/A	

SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.430	1.27	2.10	3.34	4.33	44.24	45.32	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL				
	15.42	15.42	15.42	8.76	8.42	111.69		SL · (SFL + 4·SHW) / 6	
Asymmetric	SLU	SLE	SL	SHW	SFL				
	16.10	14.50	15.30	8.53	8.88	109.65		AS · (SFL + 4·SHW) / 6	

HEADSAILS												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment
0.12	0.80	1.49	2.61	3.64	4.73	14.38	36.29			20/07/2018	Unknow	SuperLight-18
0.13	0.80	1.48	2.60	3.64	4.71	14.40	36.24			09/06/2018	Unknow	Light-18
0.12	0.79	1.49	2.62	3.64	4.72	14.34	36.18			22/07/2019	Unknow	MED (Light-19)
0.11	0.78	1.45	2.60	3.62	4.69	14.28	35.71			16/07/2016	Unknow	WC 2016
0.13	0.74	1.38	2.53	3.64	4.73	14.30	35.47			26/07/2015	Unknow	JibTop
0.07	0.64	1.23	2.38	3.50	4.60	14.42	33.95			01/04/2015	Unknow	#1H
0.06	0.44	0.84	1.69	2.56	3.50	13.15	22.62			16/05/2015	Unknow	Spi Staysail

MEASUREMENT INVENTORY				
Measurer PINDOZZI FIV-174				
Date 12/04/2019				
Comment Crack Boat				
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
A	Engine	YANMAR	3YM30	
Id	Item	Weight	Description	

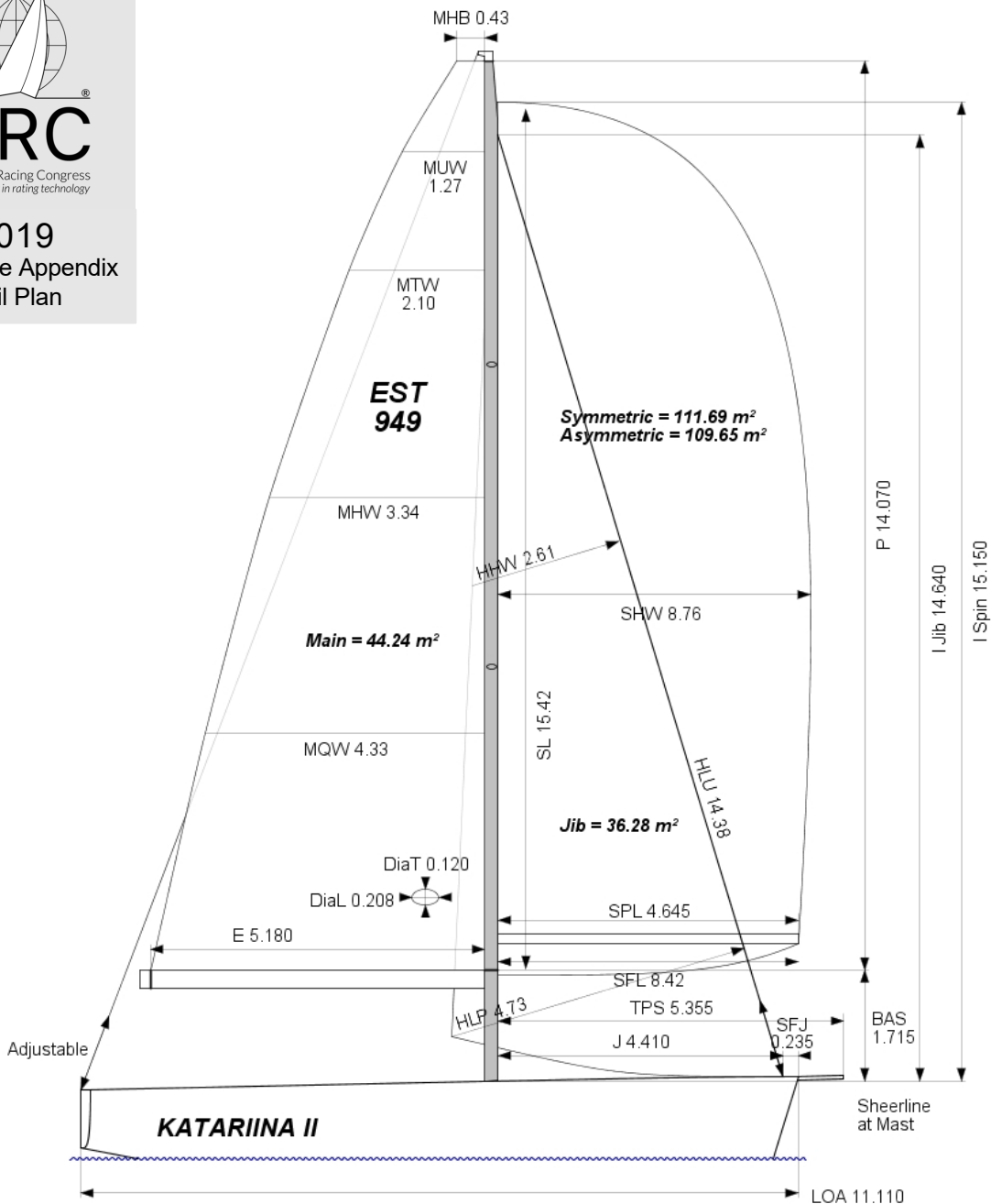
MEASUREMENT INVENTORY						
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG Condtn Description
A	Tank	FUEL	ST.STEEL	80.0	8.80	5-0 lt
B	Tank	WATER	NEOPR.	55.0	5.70	0-0 EMPTY
C	Tank	WATER	NEOPREN.	55.0	3.75	0-0 EMPTY
Id	Item	Weight	Distance	VCG Description		
1	Battery		7.80	2 x 105 Ah	portside	
A	Battery		7.80	2x105 Ah	PORT	
A	Misc		6.75	MARINE GAS COOKERS		



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Sail Plan



SAILS INVENTORY																
MAINSAIL (1)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
6	0.43	1.27	2.10	3.34	4.33	44.25				Unknown						
HEADSAILS (7)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
11	0.12	0.80	1.49	2.61	3.64	4.73	14.38	107%	36.29			FIV85/Sir	20/07/2018	NorthSails	Unknown	SuperLight-18
10	0.13	0.80	1.48	2.60	3.64	4.71	14.40	107%	36.24			EST 1	09/06/2018	NorthSails	Unknown	Light-18
12a	0.12	0.79	1.49	2.62	3.64	4.72	14.34	107%	36.18			ESP497/V	22/07/2019	NorthSails	Unknown	MED (Light-19)
7	0.11	0.78	1.45	2.60	3.62	4.69	14.28	106%	35.71				16/07/2016		Unknown	WC 2016
6	0.13	0.74	1.38	2.53	3.64	4.73	14.30	107%	35.47			EST 1	26/07/2015	NorthSails	Unknown	JibTop
4	0.07	0.64	1.23	2.38	3.50	4.60	14.42	104%	33.95			Sisil	01/04/2015	NorthSails	Unknown	#1H
5	0.06	0.44	0.84	1.69	2.56	3.50	13.15	79%	22.62			Sisil	16/05/2015	NorthSails	Unknown	Spi Staysail
SYMMETRIC SPINNAKERS (5)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
8	15.42	15.42	15.42	8.76	8.42	111.70	PINDOZZI	15/04/2019	NorthSails	Unknown	S 1,5					
7	15.55	15.55	15.55	8.60	8.53	111.27	PINDOZZI	15/04/2019	NorthSails	Unknown	S1					
6	15.40	15.40	15.40	8.71	8.36	110.88	PINDOZZI	15/04/2019	NorthSails	Unknown	S2					
4	14.45	14.45	14.45	8.16	8.26	98.51	EST 2	11/07/2015	NorthSails	Unknown	S4					
5	14.62	14.62	14.62	7.65	8.20	94.55	EST 1	26/07/2015	NorthSails	Unknown	S5					
ASYMMETRIC SPINNAKERS (3)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
2	16.10	14.50	15.30	8.53	8.88	109.65	asym	Hemamali	13/03/2019		Unknown	A1,5				
3	15.17	14.37	14.77	5.51	7.30	72.23	asym				Unknown	A0 - 19				
1	14.70	13.94	14.32	5.48	7.29	69.72	asym	Hemamali	26/05/2015		Unknown					