

BOAT		GPH	HULL			
Name KATARIINA II Sail Nr EST 949		606,0	Length Overall 11,300m Maximum Beam 3,664m Displacement 5 903kg Draft 2,071m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0,124% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder Yes Crew Arm Extension			
GENERAL			IMSL 10,410m VCGD 0,038m Sink 21,20kg/mm RL 8,956m VCGM 0,034m WS 27,24m² LSM0 10,346m Displacement/Length ratio 5,3303			
Class ONE OFF Designer COSSUTTI MAURIZIO Builder RIDAS YACHT OÜ Series 07.2015 Age 07.2015 Age Allowance 0,033% Offset File KATilc keel 016-5B1E_IBR2a.off - Measurement by A.Tetsmann - 20.06.2016						



2016
ORC International
Certificate

Rating Office
EYU
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11911
Estonia

	OFFSHORE COASTAL / LONG DISTANCE			INSHORE WINDWARD / LEEWARD		
	PLT	PLD		PLT	PLD	
Time On Distance	588,6			660,0		
Time On Time	1,0194			1,0228		
Performance Line	0,668	22,8		0,829	179,3	
Triple Number	Low 0,9590	Medium 1,2620	High 1,4391	Low 0,7354	Medium 1,0145	High 1,1898

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1056,1	870,0	764,1	705,6	679,5	666,2	652,6
52°	681,8	569,1	507,5	480,5	470,5	465,6	459,9
60°	637,5	535,7	488,1	466,4	455,6	450,0	445,4
75°	601,2	511,1	475,1	454,1	436,4	424,0	414,7
90°	603,2	512,4	471,3	455,1	435,5	416,7	389,2
110°	620,3	510,2	467,0	439,8	415,8	403,4	381,1
120°	638,3	522,6	473,3	446,1	419,1	393,5	364,3
135°	706,7	571,6	498,3	465,0	440,4	414,9	365,9
150°	844,4	667,1	561,4	497,0	466,2	443,1	397,1
Run VMG	975,0	770,3	648,2	567,8	515,4	478,0	432,2

Selected Courses							
Windward / Leeward	1015,6	820,1	706,2	636,7	597,4	572,1	542,4
Circular Random	842,9	677,3	587,6	534,7	501,4	479,1	450,2
Ocean for PCS	1037,7	797,3	660,9	576,9	521,8	483,1	429,1
Non Spinnaker	896,6	715,7	616,4	557,2	519,9	495,2	463,7

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	44,2°	42,9°	42,5°	41,2°	40,5°	40,0°	39,6°
Beat VMG	3,41	4,14	4,71	5,10	5,30	5,40	5,52
52°	5,28	6,33	7,09	7,49	7,65	7,73	7,83
60°	5,65	6,72	7,37	7,72	7,90	8,00	8,08
75°	5,99	7,04	7,58	7,93	8,25	8,49	8,68
90°	5,97	7,03	7,64	7,91	8,27	8,64	9,25
110°	5,80	7,06	7,71	8,18	8,66	8,92	9,45
120°	5,64	6,89	7,61	8,07	8,59	9,15	9,88
135°	5,09	6,30	7,22	7,74	8,17	8,68	9,84
150°	4,26	5,40	6,41	7,24	7,72	8,12	9,07
Run VMG	3,69	4,67	5,55	6,34	6,98	7,53	8,33
Gybe Angles	144,6°	148,9°	150,3°	155,9°	171,0°	180,0°	180,0°

Certificate
Number **EST949**
ORC Ref **EST00001225**
Issued On **23.07.2016**
VPP Ver. **2016 1.01**
Valid until **31.12.2016**

Crew Weight
Declared **748kg**
Default* **723kg**
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	609,2	0,9849
Double H.OSN	593,2	1,0115
Non Spin GPH	636,4	0,9428
Non Spin OSN	617,8	0,9712
N/S Perf. Line	0,1	0,600

Sails Limitations

Headsails	Spinnakers
6	3

Class Division Length
CDL = **9,684**

Storm Sails Areas

Heavy Weather Jib	29,26
Storm Jib (JL=9,57)	10,84
Storm Try sail	12,53

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

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	No				Main Furler	No	
Lenticular Rigging	No				Without Backstay	No	
Articulated Bowsprit	No						
P	14,080	E	5,085	MDT1	0,120	MW	0,208
IG	14,640	J	4,430	MDL1	0,208	GO	0,233
ISP	14,750	SFJ	0,240	MDT2	0,108	BD	0,290
BAS	1,715	SPL	4,645	MDL2	0,135	MWT	136,00
ESP	0,068	TPS		TI	0,930	MCG	4,380

MIZZEN RIG AND SAILS	
	N/A

COMMENTS	

INCLINING TEST AND FREEBOARDS				
Inclining Test Boom Inclining				
Flotation date 20.06.2016			SG 1,0000	
FFM	1,355	FF	1,362	SFFP 0,007
FAM	0,678	FA	0,686	SAFP 11,299
W1	72,500	PD1	86,0	WD 4,950
W2	72,500	PD2	85,5	GSA 12,6
W3	72,500	PD3	86,5	RSA 4298,7
W4	72,500	PD4	86,0	PLM 2005,0
LCF from stem on CL / on sheer			6,279 / 6,510	
Maximum beam station from stem			8,513	
RM Measured			146,0kg·m	
RM Default			148,8kg·m	
Limit of positive stability / Stab.Index			119,0° / 119,5	
Freeboard at mast at 4,670			1,236	

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

MOVEABLE BALLAST
N/A

CENTERBOARD	
	N/A

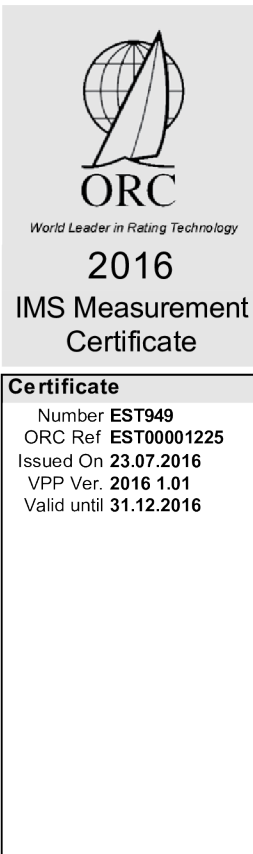
SAILS (Maximum Areas)								
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula
	0,390	1,21	2,01	3,24	4,20	42,92	43,87	$P/8 \cdot (E + 2 \cdot MQW + 2 \cdot MHW + 1.5 \cdot MTW + MUW + 0.5 \cdot MHB)$
Symmetric	SLU	SLE	SL	SHW	SFL			
	14,46	14,46	14,46	8,40	8,25	100,86		$SL \cdot (SFL + 4 \cdot SHW) / 6$
Asymmetric								
Not Available								

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
0,11	0,77	1,46	2,61	3,62	4,71	14,25	35,72			20.06.2016	Carbon	#1XL
0,11	0,78	1,45	2,60	3,62	4,69	14,28	35,71			16.07.2016	Unknow	WC 2016
0,13	0,78	1,46	2,58	3,62	4,70	14,24	35,61			20.06.2016	Carbon	#1L
0,13	0,74	1,38	2,53	3,64	4,73	14,30	35,47			26.07.2015	Unknow	JibTop
0,12	0,76	1,42	2,53	3,58	4,66	14,25	35,11			20.06.2016	Carbon	#1M
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 Arvet Tetsmann EST 1 Date 20.06.2016 Comment				
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
<i>Id</i>	<i>Item</i>	<i>Maker</i>		<i>Model</i>
1	Engine	Yanmar		3YM30
<i>Id</i>	<i>Item</i>	<i>Weight Description</i>		

MEASUREMENT INVENTORY							
<i>Id</i>	<i>Item</i>	<i>Tank Use</i>	<i>Tank Type</i>	<i>Capcty</i>	<i>Dist.</i>	<i>VCG</i>	<i>Condn Description</i>
1	Tank	Fuel	st.steel	80,0	9,00		10,0 Fuel tank
2	Tank	Water	st.steel	80,0	5,83		0,0 Water tank, starb.

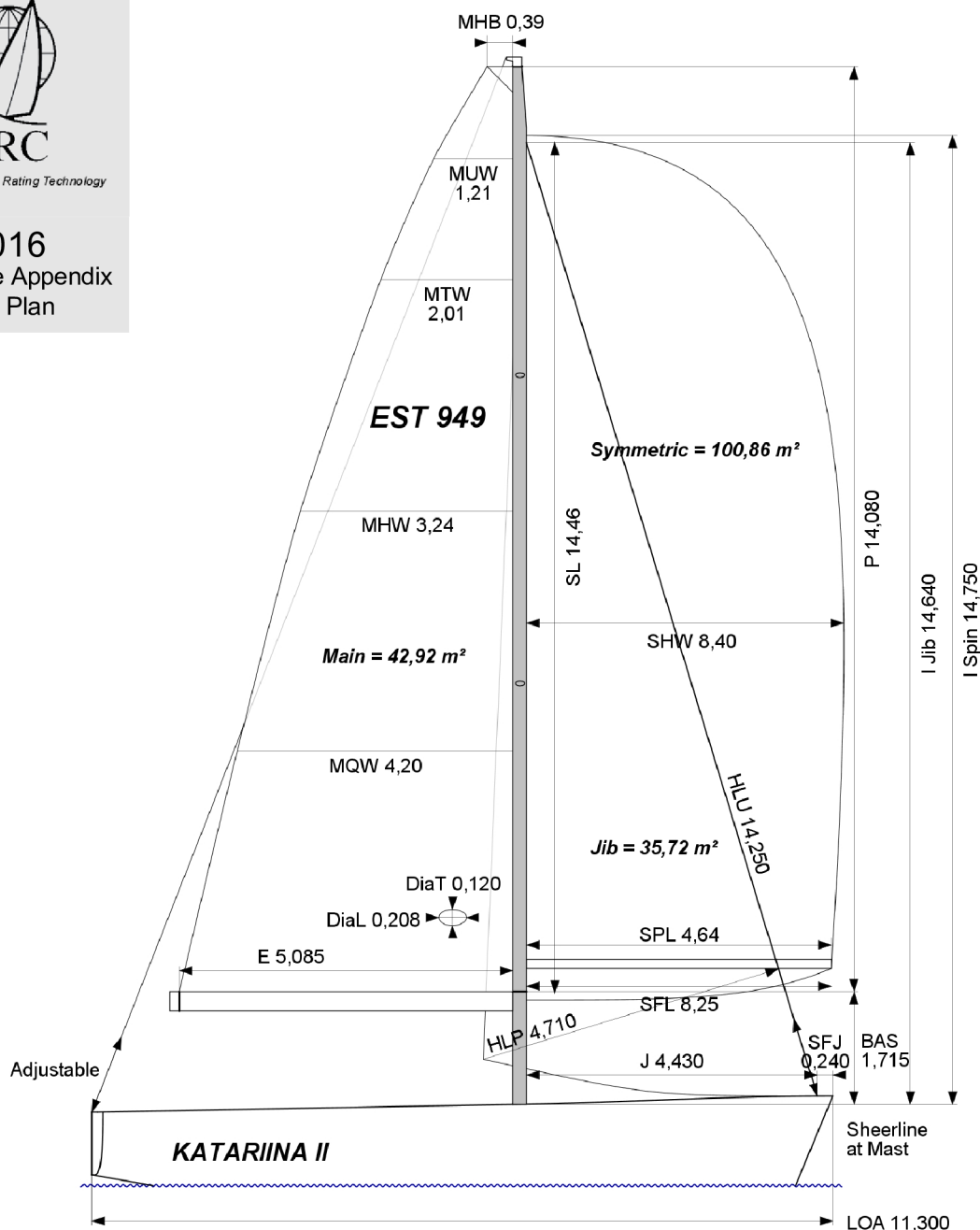
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG</i>	<i>Description</i>
1	Ballast	63,7	5,94		2 lead ballasts
2	Ballast	79,7	7,13		2 lead ballasts stb.
3	Ballast	75,8	7,13		2 lead ballasts ports.
4	Ballast	174,8	7,13		4 lead ballasts center
5	Ballast	199,9	7,53		3+3 lead ballasts stb. & ports. in aft cabins
1	Battery		8,00		2 x 105 Ah portside
1	Misc		9,80		Air heater Eberspächer





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2016 Certificate Appendix Sail Plan



SAILS INVENTORY

MAINSAIL

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
3	0,390	1,21	2,01	3,24	4,20	42,92	EST 1	24.06.2016	NorthSails	Carbon	

HEADSAILS

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1a	0,11	0,77	1,46	2,61	3,62	4,71	14,25	106%	35,72			EST 1	20.06.2016	NorthSails	Carbon	#1XL
7	0,11	0,78	1,45	2,60	3,62	4,69	14,28	106%	35,71				16.07.2016		Unknown	WC 2016
2a	0,13	0,78	1,46	2,58	3,62	4,70	14,24	106%	35,61			EST 1	20.06.2016	NorthSails	Carbon	#1L
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
3a	0,12	0,76	1,42	2,53	3,58	4,66	14,25	105%	35,11			EST 1	20.06.2016	NorthSails	Carbon	#1M
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 Stay sail

SYMMETRIC SPINNAKERS

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
2	14,46	14,46	14,46	8,40	8,25	100,86	EST 1	26.07.2015	NorthSails	Unknown	S1.5
3	14,20	14,20	14,20	8,52	8,18	100,02	EST 1	26.07.2015	NorthSails	Unknown	S2
1	14,65	14,65	14,65	8,05	8,26	98,79	EST 1	26.07.2015	NorthSails	Unknown	S1
4	14,45	14,45	14,45	8,16	8,26	98,50	EST 2	11.07.2015	NorthSails	Unknown	S4
5	14,62	14,62	14,62	7,65	8,20	94,54	EST 1	26.07.2015	NorthSails	Unknown	S5

ASYMMETRIC SPINNAKERS

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
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