

<b>BOAT</b> Name <b>KATARIINA II</b> Sail Nr <b>EST 949</b>	<b>GPH</b> <b>597.9</b>	<b>HULL</b> Length Overall <b>11.110m</b> Maximum Beam <b>3.524m</b> Displacement <b>5,615kg</b> Draft <b>2.024m</b> IMS Reg. Division <b>Cruiser/Racer</b> Dynamic Allowance <b>0.086%</b> Fwd Accommodation <b>Yes</b> Hull Construction <b>Cored</b> Carbon Rudder <b>Yes</b> Crew Arm Extension
<b>GENERAL</b> Class <b>ONE OFF</b> Designer <b>COSSUTTI MAURIZIO</b> Builder <b>RIDAS YACHT OÜ</b> Series <b>07/2017</b> Age <b>07/2017</b> Age Allowance <b>0.065%</b> Offset File <b>E949-19.off - 19/04/2019 19:16:38</b> Measurement by - <b>15/04/2019</b>		IMSL <b>10.313m</b> VCGD <b>-0.094m</b> Sink <b>20.79kg/mm</b> RL <b>9.083m</b> VCGM <b>-0.033m</b> WS <b>27.16m<sup>2</sup></b> LSM0 <b>10.272m</b> Displacement/Length ratio <b>5.1807</b>



**2019**  
ORC International  
Certificate

**Rating Office**  
  
Offshore  
Racing  
Congress



SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	<b>581.6</b>			<b>652.0</b>		
Time on Time	<b>1.0316</b>			<b>1.0353</b>		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	<b>684.7</b>	<b>529.8</b>	<b>471.8</b>	<b>887.7</b>	<b>653.9</b>	<b>570.6</b>
Time on Time	<b>0.9858</b>	<b>1.2741</b>	<b>1.4307</b>	<b>0.7604</b>	<b>1.0322</b>	<b>1.1829</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1021.4</b>	<b>841.6</b>	<b>742.0</b>	<b>700.6</b>	<b>684.6</b>	<b>678.6</b>	<b>668.4</b>
52°	<b>662.9</b>	<b>557.9</b>	<b>505.6</b>	<b>485.0</b>	<b>478.0</b>	<b>474.9</b>	<b>469.8</b>
60°	<b>623.4</b>	<b>531.7</b>	<b>490.6</b>	<b>472.2</b>	<b>464.2</b>	<b>460.3</b>	<b>456.1</b>
75°	<b>593.8</b>	<b>513.2</b>	<b>480.1</b>	<b>460.6</b>	<b>445.7</b>	<b>436.6</b>	<b>429.7</b>
90°	<b>600.6</b>	<b>508.0</b>	<b>471.5</b>	<b>456.4</b>	<b>439.7</b>	<b>422.1</b>	<b>399.6</b>
110°	<b>597.0</b>	<b>500.1</b>	<b>463.1</b>	<b>436.9</b>	<b>413.8</b>	<b>400.4</b>	<b>379.0</b>
120°	<b>614.2</b>	<b>509.6</b>	<b>468.6</b>	<b>440.9</b>	<b>413.3</b>	<b>388.1</b>	<b>355.9</b>
135°	<b>683.8</b>	<b>553.9</b>	<b>489.2</b>	<b>458.7</b>	<b>431.8</b>	<b>405.2</b>	<b>351.8</b>
150°	<b>813.7</b>	<b>647.8</b>	<b>547.0</b>	<b>489.0</b>	<b>460.7</b>	<b>435.9</b>	<b>387.4</b>
Run VMG	<b>939.6</b>	<b>748.0</b>	<b>631.7</b>	<b>556.8</b>	<b>508.9</b>	<b>474.3</b>	<b>426.6</b>

**Certificate**  
Number **EST949**  
ORC Ref **EST00000589**  
Issued On **23/05/2019**  
VPP Ver. **2019 1.01**  
Valid until **31/12/2019**

**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 **607.1 0.9883**  
Double H.OSN **591.8 1.0138**  
Non Spin GPH **633.2 0.9476**  
Non Spin OSN **615.3 0.9752**

Selected Courses							
Windward / Leeward	<b>980.5</b>	<b>794.8</b>	<b>686.8</b>	<b>628.7</b>	<b>596.7</b>	<b>576.4</b>	<b>547.5</b>
Circular Random	<b>822.6</b>	<b>664.5</b>	<b>580.1</b>	<b>531.2</b>	<b>501.0</b>	<b>480.8</b>	<b>453.5</b>
Coastal / Long Distance	<b>976.4</b>	<b>745.7</b>	<b>619.4</b>	<b>549.7</b>	<b>512.4</b>	<b>481.5</b>	<b>431.1</b>
Non Spinnaker	<b>885.6</b>	<b>709.1</b>	<b>613.4</b>	<b>557.2</b>	<b>522.5</b>	<b>499.6</b>	<b>470.1</b>

**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	<b>43.4°</b>	<b>41.9°</b>	<b>40.8°</b>	<b>39.9°</b>	<b>39.1°</b>	<b>39.0°</b>	<b>40.0°</b>
Beat VMG	<b>3.52</b>	<b>4.28</b>	<b>4.85</b>	<b>5.14</b>	<b>5.26</b>	<b>5.30</b>	<b>5.39</b>
52°	<b>5.43</b>	<b>6.45</b>	<b>7.12</b>	<b>7.42</b>	<b>7.53</b>	<b>7.58</b>	<b>7.66</b>
60°	<b>5.78</b>	<b>6.77</b>	<b>7.34</b>	<b>7.62</b>	<b>7.76</b>	<b>7.82</b>	<b>7.89</b>
75°	<b>6.06</b>	<b>7.01</b>	<b>7.50</b>	<b>7.82</b>	<b>8.08</b>	<b>8.25</b>	<b>8.38</b>
90°	<b>5.99</b>	<b>7.09</b>	<b>7.64</b>	<b>7.89</b>	<b>8.19</b>	<b>8.53</b>	<b>9.01</b>
110°	<b>6.03</b>	<b>7.20</b>	<b>7.77</b>	<b>8.24</b>	<b>8.70</b>	<b>8.99</b>	<b>9.50</b>
120°	<b>5.86</b>	<b>7.06</b>	<b>7.68</b>	<b>8.17</b>	<b>8.71</b>	<b>9.28</b>	<b>10.12</b>
135°	<b>5.26</b>	<b>6.50</b>	<b>7.36</b>	<b>7.85</b>	<b>8.34</b>	<b>8.88</b>	<b>10.23</b>
150°	<b>4.42</b>	<b>5.56</b>	<b>6.58</b>	<b>7.36</b>	<b>7.81</b>	<b>8.26</b>	<b>9.29</b>
Run VMG	<b>3.83</b>	<b>4.81</b>	<b>5.70</b>	<b>6.47</b>	<b>7.07</b>	<b>7.59</b>	<b>8.44</b>
Gybe Angles	<b>140.8°</b>	<b>147.6°</b>	<b>149.1°</b>	<b>156.4°</b>	<b>172.4°</b>	<b>180.0°</b>	<b>180.0°</b>

**Class Division Length**  
CDL = **9.699**

**Storm Sails Areas**  
Heavy Weather Jib **29.27**  
Storm Jib (JL=9.58) **10.84**  
Storm Trysail **12.45**

**Owner**

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

<b>RIG</b>				
Forestay Tension <b>Aft &amp; Forward</b>	Spreaders <b>2</b>			
Inner Stay <b>None Fitted</b>	Runners <b>0</b>			
Carbon Mast <b>Yes</b>	Jumper Struts <b>None</b>			
Taper Hollows <b>No</b>	Jib Furler <b>No</b>			
Fiber Rigging <b>Yes</b>	Main Furler <b>No</b>			
Lenticular Rigging <b>No</b>	Without Backstay <b>No</b>			
Articulated Bowsprit <b>No</b>				
P <b>14.050</b>	E <b>5.060</b>	MDT1 <b>0.120</b>	MW <b>0.208</b>	
IG <b>14.640</b>	J <b>4.410</b>	MDL1 <b>0.208</b>	GO <b>0.233</b>	
ISP <b>15.150</b>	SFJ <b>0.235</b>	MDT2 <b>0.108</b>	BD <b>0.290</b>	
BAS <b>1.715</b>	SPL <b>4.645</b>	MDL2 <b>0.135</b>	MWT <b>132.80</b>	
FSP <b>0.076</b>	TPS <b>5.355</b>	TL <b>0.900</b>	MCG <b>4.360</b>	

<b>INCLINING TEST AND FREEBOARDS</b>				
Inclining Test <b>Current Inclining</b>				
Flotation date <b>12/04/2019</b>			SG <b>1.0020</b>	
FFM <b>1.265</b>	FF <b>1.272</b>	SFFP <b>0.000</b>		
FAM <b>0.657</b>	FA <b>0.663</b>	SAFP <b>11.110</b>		
W1 <b>84.7</b>	PD1 <b>533.7</b>	WD <b>12.480</b>		
W2 <b>84.7</b>	PD2 <b>535.5</b>	GSA <b>1.0</b>		
W3 <b>84.7</b>	PD3 <b>536.2</b>	RSA <b>1.0</b>		
W4 <b>84.7</b>	PD4 <b>534.3</b>	PLM <b>9000.0</b>		
LCF from stem on CL / on sheer			<b>6.209 / 6.432</b>	
Maximum beam station from stem			<b>8.000</b>	
RM Measured			<b>155.6kg-m</b>	
RM Default			<b>159.4kg-m</b>	
Limit of positive stability / Stab.Index			<b>122.0° / 122.8</b>	
Freeboard at mast at 4.645			<b>1.202</b>	



**ORC**  
Offshore Racing Congress  
World leader in rating technology

**2019**  
IMS Measurement  
Certificate

<b>MIZZEN RIG AND SAILS</b>	
N/A	

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

<b>Certificate</b>	
Number <b>EST949</b>	
ORC Ref <b>EST00000589</b>	
Issued On <b>23/05/2019</b>	
VPP Ver. <b>2019 1.01</b>	
Valid until <b>31/12/2019</b>	

<b>COMMENTS</b>

<b>MOVABLE BALLAST</b>	
N/A	

<b>CENTERBOARD</b>	
N/A	



<b>SAILS (Maximum Areas)</b>									
<b>Mainsail</b>	<b>MHB</b>	<b>MUW</b>	<b>MTW</b>	<b>MHW</b>	<b>MQW</b>	<b>Area</b>	<b>Area (r)</b>	<b>Formula</b>	
	0.390	1.20	2.01	3.29	4.24	43.08	44.08	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
<b>Symmetric</b>	<b>SLU</b>	<b>SLE</b>	<b>SL</b>	<b>SHW</b>	<b>SFL</b>				
	15.42	15.42	15.42	8.76	8.42	111.69		SL · (SFL + 4·SHW) / 6	
<b>Asymmetric</b>	<b>SLU</b>	<b>SLE</b>	<b>SL</b>	<b>SHW</b>	<b>SFL</b>				
	16.10	14.50	15.30	8.53	8.88	109.65		AS · (SFL + 4·SHW) / 6	

<b>HEADSAILS</b>												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
<b>HHB</b>	<b>HUW</b>	<b>HTW</b>	<b>HHW</b>	<b>HQW</b>	<b>HLP</b>	<b>HLU</b>	<b>Area</b>	<b>Btn</b>	<b>Fly</b>	<b>Meas.Date</b>	<b>Material</b>	<b>Comment</b>
0.11	0.81	1.49	2.64	3.66	4.73	14.55	36.89				Unknow	Light-19
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
0.11	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

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

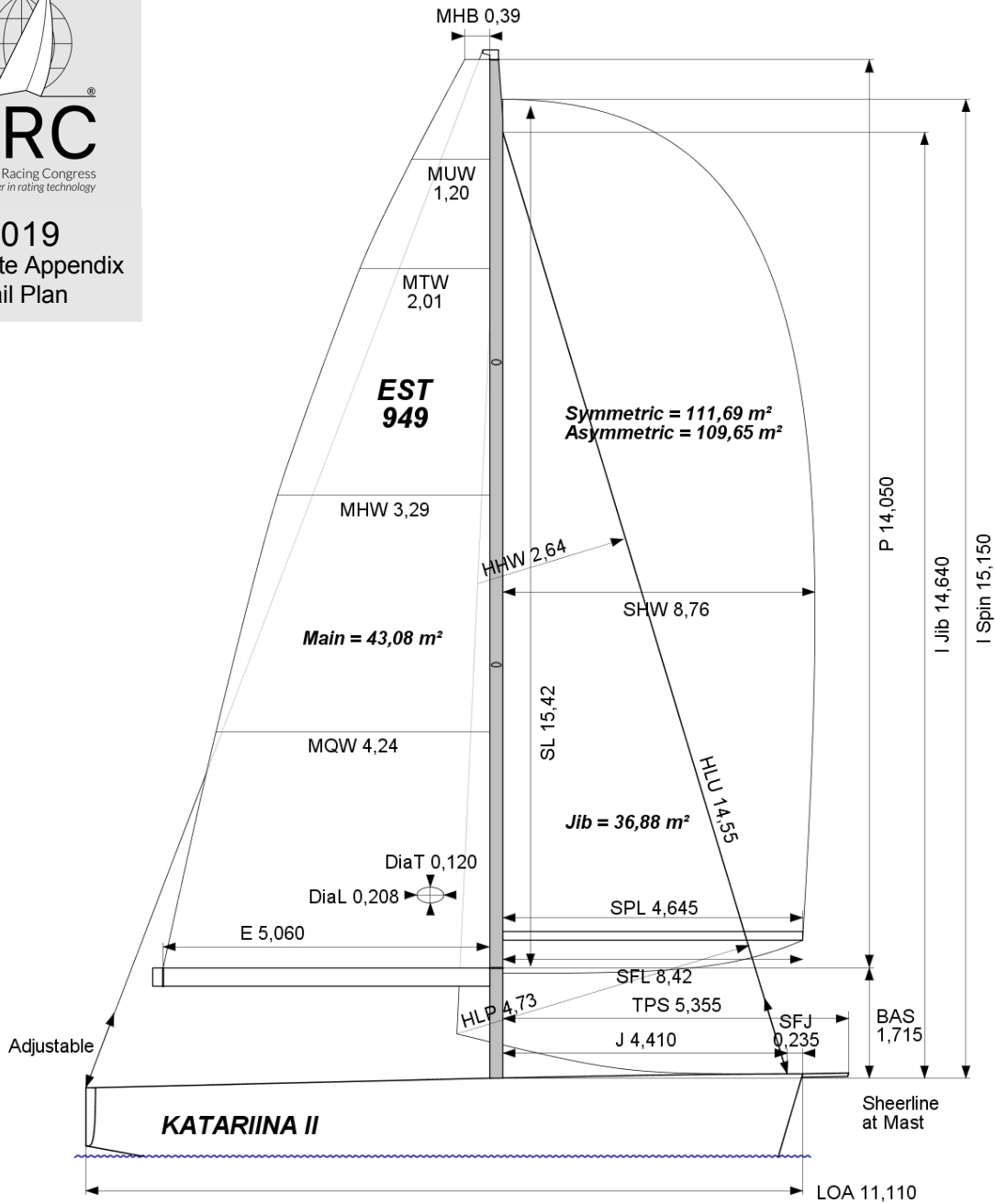
<b>MEASUREMENT INVENTORY</b>							
<b>Id</b>	<b>Item</b>	<b>Tank Use</b>	<b>Tank Type</b>	<b>Capcty</b>	<b>Dist.</b>	<b>VCG</b>	<b>Condtn Description</b>
A	Tank	FUEL	ST.STEEL	80.0	8.80		5-0 lt
B	Tank	WATER	NEOPR.	55.0	5.70		0-0 EMPTY
C	Tank	WATER	NEOPREN.	55.0	3.75		0-0 EMPTY
<b>Id</b>	<b>Item</b>	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



**ORC**

Offshore Racing Congress  
World leader in rating technology

**2019**  
Certificate Appendix  
Sail Plan



**SAILS INVENTORY**

MAINSAIL (1)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
5	0.39	1.20	2.01	3.29	4.24	43.09		09/06/2018	NorthSails	Unknown						
HEADSAILS (7)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
12	0.11	0.81	1.49	2.64	3.66	4.73	14.55	107%	36.89					NorthSails	Unknown	Light-19
11	0.12	0.80	1.49	2.61	3.64	4.73	14.38	107%	36.29				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				09/06/2018	NorthSails	Unknown	Light-18
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				26/07/2015	NorthSails	Unknown	JibTop
4	0.07	0.64	1.23	2.38	3.50	4.60	14.42	104%	33.95				01/04/2015	NorthSails	Unknown	#1H
5	0.06	0.44	0.84	1.69	2.56	3.50	13.15	79%	22.62				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		15/04/2019	NorthSails	Unknown	S 1,5					
7	15.55	15.55	15.55	8.60	8.53	111.27		15/04/2019	NorthSails	Unknown	S1					
6	15.40	15.40	15.40	8.71	8.36	110.88		15/04/2019	NorthSails	Unknown	S2					
4	14.45	14.45	14.45	8.16	8.26	98.51		11/07/2015	NorthSails	Unknown	S4					
5	14.62	14.62	14.62	7.65	8.20	94.55		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		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		26/05/2015		Unknown					