



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

**2019  
ORC Club  
Certificate**

**Rating Office**

**EYU  
Purje 8  
11911, Tallinn  
Estonia**

**Certificate**

Number **Est103**  
Issued On **5/21/2019**  
ORC Ref **EST0000564**  
VPP Ver. **2019 1.01**  
Valid until **12/31/2019**

**Crew Weight**

Default 419kg  
Maximum **400kg**  
Minimum\* **300kg**  
*\*when applied by the NoR and SI*  
Non Manual Pwr

**Special Scoring**

	ToD	ToT
Double H.GPH	<b>742.2</b>	<b>0.8084</b>
Double H.OSN	<b>722.1</b>	<b>0.8309</b>
Non Spin GPH	<b>766.5</b>	<b>0.7828</b>
Non Spin OSN	<b>741.8</b>	<b>0.8089</b>

**Sails Limitations**

Headsails **5** Spinnakers **3**  
**Dacron Sails**

**Spinnaker configuration**

Symmetric: **Yes** **54.52**  
Asymmetric: **No**  
Flying H/S: **No**  
Spin. Pole: **Yes**

**Class Division Length**

**CDL = 6.622**

**Stability (Estimated)**

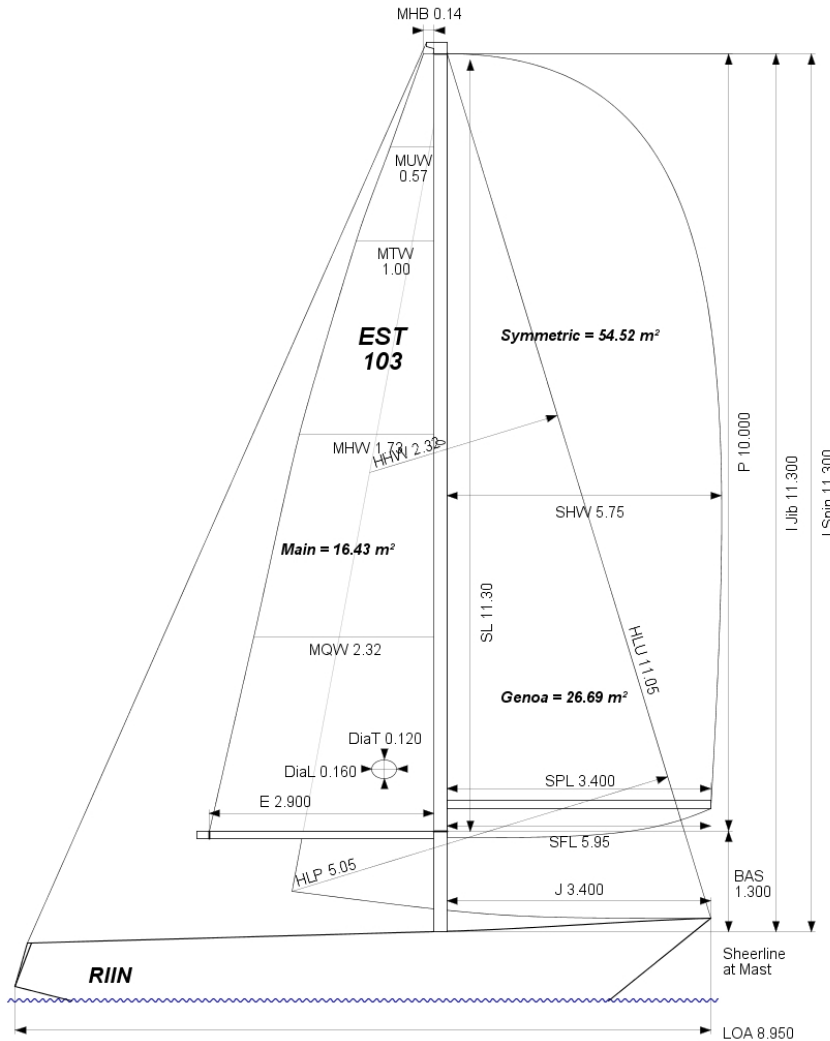
Limit Positive Stab.: **118.9°**  
Stability Index: **120.7**

**Owner**

**Ergo Padul  
Tammsaare 38-47  
Pärnu, Estonia  
PJK**

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

Signature



BOAT		GPH		HULL		
Name	<b>RIIN</b>		<b>733.8</b>	Data File	<b>Est0103</b> LOA <b>8.950m</b>	
Sail Nr	<b>EST 103</b>			Offset File	<b>EST103_CL.off</b> MB <b>2.750m</b>	
				Displacement	<b>3,300kg</b> Draft <b>1.568m</b>	
CLASS				IMS Division	<b>Cruiser/Racer</b> Dynamic All. <b>0.514%</b>	
Class	<b>APHRODITE 30</b>			Fwd Accom.	<b>Yes</b> Construction <b>Solid</b>	
Designer				Fiber Rigging	<b>No</b> Aramid Core <b>No</b>	
Builder				Crew Arm Ex	<b>No</b> Carbon Rudder <b>No</b>	
Series	<b>01/1976</b>				Light Stanchions <b>No</b>	
Age Date	<b>01/1978</b>			IMSL	<b>7.173m</b> VCGD <b>-0.139m</b> Sink <b>10.98kg/mm</b>	
Age Allowance	<b>0.487%</b>			RL	<b>6.070m</b> VCGM <b>-0.054m</b> WS <b>16.67m²</b>	
COMMENTS				LSM0	<b>7.061m</b> Displacement/Length ratio <b>9.3738</b>	
				Water Ballast	<b>0</b> Trim Tab <b>No</b>	
				BLR Index	<b>0.0000</b>	
PROPELLER				CENTERBOARD		
Installation	<b>Strut</b>	PRD	<b>0.400</b>	<b>N/A</b>		
Type	<b>Folding 2 blades</b>	PIPA	<b>0.0006</b>			
SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	<b>712.7</b>			<b>791.9</b>		
Time on Time	<b>0.8419</b>			<b>0.8523</b>		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	<b>838.8</b>	<b>650.4</b>	<b>584.3</b>	<b>1075.5</b>	<b>796.6</b>	<b>694.2</b>
Time on Time	<b>0.8047</b>	<b>1.0379</b>	<b>1.1552</b>	<b>0.6276</b>	<b>0.8473</b>	<b>0.9723</b>

<b>BOAT</b>	
Name <b>RIIN</b>	Sail Nr <b>EST 103</b>
File <b>Est0103</b>	Data in <b>meters/kilograms</b>

<b>INCLINING TEST AND FREEBOARDS</b>			
Inclining Test <b>Club Estimated VCG</b>			
Flotation date <b>17/04/2019</b>		SG	
FFM	FF	1.017	SFFP 1.050
FAM	FA	0.736	SAFP 8.747
LCF from stem on CL / on sheer		5.117 / 5.294	
Maximum beam station from stem		5.364	
RM Measured		44.8kg·m	
RM Default		43.5kg·m	
Limit of positive stability / Stab.Index		118.9° / 120.7	
Freeboard at mast at 3.400		0.883	



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

**2019**  
Measurements  
Datasheet

<b>RIG</b>			
Forestay Tension <b>Fixed</b>	Spreaders <b>1</b>		
Inner Stay <b>None Fitted</b>	Runners <b>0</b>		
Carbon Mast <b>No</b>	Jumper Struts <b>None</b>		
Taper Hollows <b>No</b>	Jib Furler <b>No</b>		
Fiber Rigging <b>No</b>	Main Furler <b>No</b>		
Lenticular Rigging <b>No</b>	Without Backstay <b>No</b>		
Articulated Bowsprit <b>No</b>			
P <b>10.000</b>	E <b>2.900</b>	MDT1 <b>0.120</b>	MW
IG <b>11.300</b>	J <b>3.400</b>	MDL1 <b>0.160</b>	GO
ISP <b>11.300</b>	SFJ <b>0.000</b>	MDT2	BD
BAS <b>1.300</b>	SPL <b>3.400</b>	MDL2	MWT
FSP <b>-2.000</b>	TPS	TL <b>-3.000</b>	MCG

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

<b>PROPELLER</b>			
Installation <b>Strut</b>	PRD	0.400	
Type <b>Folding 2 blades</b>	PBW		
Twin Screw	PIPA	0.0006	
ST1	ST3	ST5	
ST2	ST4	EDL	

<b>Certificate</b>	
Number	Est103
ORC Ref	EST00000564
Issued On	5/21/2019
VPP Ver.	2019 1.01
Valid until	12/31/2019

<b>COMMENTS</b>	

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

<b>CENTERBOARD</b>	
N/A	

<b>SAILS INVENTORY</b>																
<b>MAINSAIL (1)</b>																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
1	0.14	0.57	1.00	1.73	2.32	16.43	EST1									
<b>HEADSAILS (5)</b>																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.06	0.59	1.13	2.32	3.61	5.05	11.05	149%	26.69			EST1	24/05/2015			Unknow
2	0.08	0.57	1.10	2.26	3.57	5.06	11.10	149%	26.51			EST1	10/06/2015			
3	0.08	0.58	1.11	2.25	3.59	5.07	10.98	149%	26.30			EST7	06/04/2019			Unknow
4	0.27	0.53	1.03	2.20	4.20	11.01	124%	16.89				EST1	05/02/2017			Unknow
5	0.08	0.33	0.61	1.21	1.97	2.86	9.60	84%	12.72			EST7	05/04/2019			Unknow
<b>SYMMETRIC SPINNAKERS (1)</b>																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
1	11.30	11.30	11.30	5.75	5.95	54.53	EST1	10/06/2015								
<b>ASYMMETRIC SPINNAKERS (0)</b>																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				

# 2009

## ORC Club Certificate Appendix

<b>BOAT</b>			
Name	RIIN	Certificate Number	Est103
Sail Nr	EST 103	Issued On	5/21/2019

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1239.9</b>	<b>1040.7</b>	<b>924.1</b>	<b>857.1</b>	<b>831.6</b>	<b>820.8</b>	<b>824.1</b>
52°	<b>811.8</b>	<b>690.2</b>	<b>623.7</b>	<b>595.2</b>	<b>582.3</b>	<b>576.8</b>	<b>574.8</b>
60°	<b>769.0</b>	<b>655.1</b>	<b>603.7</b>	<b>580.7</b>	<b>567.8</b>	<b>560.6</b>	<b>556.9</b>
75°	<b>740.1</b>	<b>631.5</b>	<b>589.2</b>	<b>568.1</b>	<b>553.1</b>	<b>541.1</b>	<b>527.8</b>
90°	<b>749.6</b>	<b>634.8</b>	<b>581.0</b>	<b>559.1</b>	<b>547.9</b>	<b>532.6</b>	<b>507.9</b>
110°	<b>747.3</b>	<b>619.4</b>	<b>571.5</b>	<b>545.3</b>	<b>522.8</b>	<b>505.7</b>	<b>488.1</b>
120°	<b>768.2</b>	<b>632.3</b>	<b>576.6</b>	<b>548.5</b>	<b>524.2</b>	<b>501.6</b>	<b>471.3</b>
135°	<b>838.6</b>	<b>687.5</b>	<b>601.1</b>	<b>565.3</b>	<b>540.1</b>	<b>515.5</b>	<b>473.2</b>
150°	<b>972.7</b>	<b>778.9</b>	<b>663.4</b>	<b>595.6</b>	<b>564.4</b>	<b>541.1</b>	<b>496.6</b>
Run VMG	<b>1123.1</b>	<b>898.5</b>	<b>763.1</b>	<b>671.7</b>	<b>606.9</b>	<b>572.1</b>	<b>526.7</b>
<b>Selected Courses</b>							
Windward / Leeward	<b>1181.5</b>	<b>969.6</b>	<b>843.6</b>	<b>764.4</b>	<b>719.3</b>	<b>696.5</b>	<b>675.4</b>
Circular Random	<b>1006.9</b>	<b>814.8</b>	<b>712.1</b>	<b>652.9</b>	<b>617.3</b>	<b>595.0</b>	<b>569.3</b>
Coastal / Long Distance	<b>1175.7</b>	<b>910.8</b>	<b>761.2</b>	<b>672.5</b>	<b>628.0</b>	<b>594.9</b>	<b>543.4</b>
Non Spinnaker	<b>1065.8</b>	<b>856.3</b>	<b>742.9</b>	<b>676.6</b>	<b>636.2</b>	<b>610.8</b>	<b>581.5</b>

<b>Velocity Prediction in Knots for True Wind Speeds</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	<b>42.9°</b>	<b>41.7°</b>	<b>41.6°</b>	<b>40.5°</b>	<b>40.0°</b>	<b>39.8°</b>	<b>40.5°</b>
Beat VMG	<b>2.90</b>	<b>3.46</b>	<b>3.90</b>	<b>4.20</b>	<b>4.33</b>	<b>4.39</b>	<b>4.37</b>
52°	<b>4.43</b>	<b>5.22</b>	<b>5.77</b>	<b>6.05</b>	<b>6.18</b>	<b>6.24</b>	<b>6.26</b>
60°	<b>4.68</b>	<b>5.50</b>	<b>5.96</b>	<b>6.20</b>	<b>6.34</b>	<b>6.42</b>	<b>6.46</b>
75°	<b>4.86</b>	<b>5.70</b>	<b>6.11</b>	<b>6.34</b>	<b>6.51</b>	<b>6.65</b>	<b>6.82</b>
90°	<b>4.80</b>	<b>5.67</b>	<b>6.20</b>	<b>6.44</b>	<b>6.57</b>	<b>6.76</b>	<b>7.09</b>
110°	<b>4.82</b>	<b>5.81</b>	<b>6.30</b>	<b>6.60</b>	<b>6.89</b>	<b>7.12</b>	<b>7.38</b>
120°	<b>4.69</b>	<b>5.69</b>	<b>6.24</b>	<b>6.56</b>	<b>6.87</b>	<b>7.18</b>	<b>7.64</b>
135°	<b>4.29</b>	<b>5.24</b>	<b>5.99</b>	<b>6.37</b>	<b>6.66</b>	<b>6.98</b>	<b>7.61</b>
150°	<b>3.70</b>	<b>4.62</b>	<b>5.43</b>	<b>6.04</b>	<b>6.38</b>	<b>6.65</b>	<b>7.25</b>
Run VMG	<b>3.21</b>	<b>4.01</b>	<b>4.72</b>	<b>5.36</b>	<b>5.93</b>	<b>6.29</b>	<b>6.84</b>
Gybe Angles	<b>147.9°</b>	<b>151.8°</b>	<b>152.6°</b>	<b>161.4°</b>	<b>180.0°</b>	<b>180.0°</b>	<b>180.0°</b>