



World Leader in Rating Technology

## 2011 ORC Club Certificate

### Rating Office

Estonian Yachting Union  
Regati 1, 11911  
Tallinn  
Estonia

### Certificate

Number **EST637**  
Issued On **3.05.2011**  
ORC Ref **EST00001934**  
VPP Ver. **2011.1.02**  
Valid until **31.12.2011**

### Crew Weight

Declared **385 kg**  
Default\* **342 kg**  
Non Manual Power **No**

### Special Scoring

	ToD	ToT
Double	<b>732,6</b>	<b>0,8189</b>
Non Spinnaker	<b>752,5</b>	<b>0,7973</b>
N/S Perf. Line	<b>114,6</b>	<b>0,715</b>

### Sails Limitations

Genoas **2** Spinnakers **3**  
Jibs **2**

### Spinnaker configuration

Symmetric: **Yes 29,33**  
Asymmetric: **No**  
Code Zero: **No**  
Spin. Pole: **Yes**

### Stability

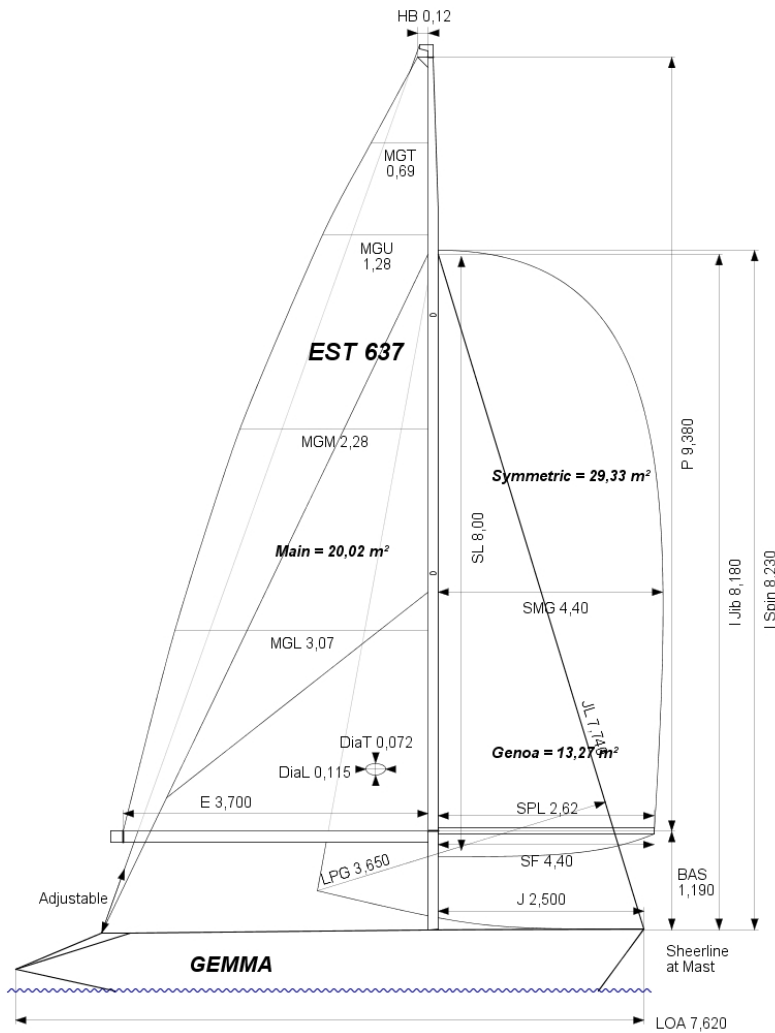
LPS (Estimated): **117,1°**  
Stability Index: **109,5**  
OSR Category: **N/A**

### Owner

Margus Tammoja  
Sarapuu tee 6-4, Jüri  
Estonia  
ESS Kalev JK

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

Signature



BOAT		GPH	HULL			
Name <b>GEMMA</b> Sail Nr <b>EST 637</b>		<b>730,3</b>	Data File <b>Est0637.dxt</b>	LOA <b>7,620 m</b>		
			Offset File <b>G2.BOF</b>	MB <b>2,706 m</b>		
			Displacement <b>1 700 kg</b>	Draft <b>1,570 m</b>		
CLASS			IMS Division <b>Performance</b>	Dynamic All. <b>0,278%</b>		
Class <b>POLARIS</b>			Fwd Accom. <b>Yes</b>	Construction <b>Solid</b>		
Designer <b>SET</b>			Fiber <b>No</b>	Aramid Core <b>No</b>		
Builder <b>SET</b>			Crew Arm Ex	Carbon Rudder <b>No</b>		
Series <b>01.1992</b>			Anchor Wgt	Anchor LCG		
Age Date <b>01.1992</b>			IMS L <b>6,162</b>	Wetted Area <b>11,29 m²</b>	VCGM <b>-0,072</b>	
Age Allowance <b>0,975%</b>						
COMMENTS						
PROPELLER		CENTERBOARD				
Type <b>No Propeller</b>		<b>N/A</b>				
SCORING OPTIONS						
	OFFSHORE COASTAL / LONG DISTANCE			INSHORE WINDWARD / LEEWARD		
Time On Distance	<b>730,3</b>			<b>779,5</b>		
Time On Time	<b>0,8215</b>			<b>0,8659</b>		
Performance Line	PLT	PLD		PLT	PLD	
	<b>0,772</b>	<b>140,3</b>		<b>0,816</b>	<b>270,4</b>	
Triple Number	Low	Medium	High	Low	Medium	High
	<b>0,8211</b>	<b>1,0348</b>	<b>1,1624</b>	<b>0,6374</b>	<b>0,8610</b>	<b>0,9838</b>



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# 2011

## ORC Club Certificate Appendix

<b>BOAT</b>			
Name	<b>GEMMA</b>	Certificate Number	<b>EST637</b>
Sail Nr	<b>EST 637</b>	Issued On	<b>3.05.2011</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1167,2</b>	<b>953,7</b>	<b>875,4</b>	<b>832,3</b>	<b>805,4</b>	<b>787,9</b>	<b>775,9</b>
52°	<b>747,7</b>	<b>664,2</b>	<b>624,8</b>	<b>597,8</b>	<b>581,2</b>	<b>571,7</b>	<b>561,3</b>
60°	<b>713,9</b>	<b>645,8</b>	<b>609,3</b>	<b>582,3</b>	<b>561,5</b>	<b>552,0</b>	<b>541,4</b>
75°	<b>692,3</b>	<b>632,7</b>	<b>597,3</b>	<b>569,8</b>	<b>547,1</b>	<b>527,9</b>	<b>511,6</b>
90°	<b>698,9</b>	<b>632,3</b>	<b>590,1</b>	<b>556,8</b>	<b>530,9</b>	<b>518,7</b>	<b>493,3</b>
110°	<b>718,4</b>	<b>638,9</b>	<b>595,5</b>	<b>561,7</b>	<b>533,6</b>	<b>508,4</b>	<b>457,5</b>
120°	<b>748,3</b>	<b>654,2</b>	<b>607,7</b>	<b>572,9</b>	<b>544,1</b>	<b>518,8</b>	<b>468,2</b>
135°	<b>870,0</b>	<b>700,4</b>	<b>638,0</b>	<b>598,5</b>	<b>566,5</b>	<b>539,3</b>	<b>491,3</b>
150°	<b>1033,7</b>	<b>798,2</b>	<b>684,7</b>	<b>630,9</b>	<b>594,2</b>	<b>563,9</b>	<b>514,6</b>
Run VMG	<b>1193,6</b>	<b>921,6</b>	<b>767,4</b>	<b>682,4</b>	<b>631,7</b>	<b>596,0</b>	<b>541,3</b>
<b>Selected Courses</b>							
Windward / Leeward	<b>1201,1</b>	<b>956,8</b>	<b>834,3</b>	<b>767,4</b>	<b>726,7</b>	<b>699,3</b>	<b>665,1</b>
Circular Random	<b>993,3</b>	<b>807,9</b>	<b>709,7</b>	<b>652,8</b>	<b>616,8</b>	<b>591,9</b>	<b>557,4</b>
Ocean for PCS	<b>1058,7</b>	<b>842,9</b>	<b>724,5</b>	<b>652,8</b>	<b>605,3</b>	<b>570,7</b>	<b>519,6</b>
Non Spinnaker	<b>1036,2</b>	<b>836,8</b>	<b>730,3</b>	<b>668,3</b>	<b>629,3</b>	<b>602,9</b>	<b>567,7</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>44,1°</b>	<b>39,7°</b>	<b>37,5°</b>	<b>36,5°</b>	<b>35,5°</b>	<b>35,0°</b>	<b>35,1°</b>
Beat VMG	<b>3,08</b>	<b>3,77</b>	<b>4,11</b>	<b>4,33</b>	<b>4,47</b>	<b>4,57</b>	<b>4,64</b>
52°	<b>4,81</b>	<b>5,42</b>	<b>5,76</b>	<b>6,02</b>	<b>6,19</b>	<b>6,30</b>	<b>6,41</b>
60°	<b>5,04</b>	<b>5,57</b>	<b>5,91</b>	<b>6,18</b>	<b>6,41</b>	<b>6,52</b>	<b>6,65</b>
75°	<b>5,20</b>	<b>5,69</b>	<b>6,03</b>	<b>6,32</b>	<b>6,58</b>	<b>6,82</b>	<b>7,04</b>
90°	<b>5,15</b>	<b>5,69</b>	<b>6,10</b>	<b>6,47</b>	<b>6,78</b>	<b>6,94</b>	<b>7,30</b>
110°	<b>5,01</b>	<b>5,63</b>	<b>6,05</b>	<b>6,41</b>	<b>6,75</b>	<b>7,08</b>	<b>7,87</b>
120°	<b>4,81</b>	<b>5,50</b>	<b>5,92</b>	<b>6,28</b>	<b>6,62</b>	<b>6,94</b>	<b>7,69</b>
135°	<b>4,14</b>	<b>5,14</b>	<b>5,64</b>	<b>6,02</b>	<b>6,35</b>	<b>6,67</b>	<b>7,33</b>
150°	<b>3,48</b>	<b>4,51</b>	<b>5,26</b>	<b>5,71</b>	<b>6,06</b>	<b>6,38</b>	<b>7,00</b>
Run VMG	<b>3,02</b>	<b>3,91</b>	<b>4,69</b>	<b>5,28</b>	<b>5,70</b>	<b>6,04</b>	<b>6,65</b>
Gybe Angles	<b>145,9°</b>	<b>146,8°</b>	<b>164,4°</b>	<b>175,3°</b>	<b>177,6°</b>	<b>177,9°</b>	<b>178,1°</b>