

<b>BOAT</b> Name <b>EST EMAR</b> Sail Nr <b>GRE-75</b>	<b>GPH</b> <b>605.5</b>	<b>HULL</b> Length Overall <b>10.600m</b> Maximum Beam <b>3.250m</b> Displacement <b>4,479kg</b> Draft <b>2.172m</b> IMS Reg. Division <b>Cruiser/Racer</b> Dynamic Allowance <b>0.000%</b> Fwd Accommodation <b>Yes</b> Hull Construction <b>Cored</b> Carbon Rudder <b>No</b> Crew Arm Extension
<b>GENERAL</b> Class <b>X-35 OD</b> Designer <b>JEPPESEN</b> Builder <b>X-YACHTS</b> Series <b>09/2005</b> Age <b>06/2006</b> Age Allowance <b>0.422%</b> Offset File <b>X35.OFF - 17/12/2005 11:51:04</b> Measurement by <b>KALL - 04/05/2006</b>		IMSL <b>9.446m</b> VCGD <b>0.053m</b> Sink <b>17.60kg/mm</b> RL <b>8.684m</b> VCGM <b>0.044m</b> WS <b>22.89m<sup>2</sup></b> LSM0 <b>9.265m</b> Displacement/Length ratio <b>5.6318</b>



World Leader in Rating Technology

**2018**  
ORC International  
Certificate

**Rating Office**

Offshore  
Racing  
Congress



World Leader in Rating Technology

<b>SCORING OPTIONS</b>						
	<b>COASTAL / LONG DISTANCE</b>			<b>WINDWARD / LEEWARD</b>		
Time on Distance	<b>591.1</b>			<b>658.7</b>		
Time on Time	<b>1.0150</b>			<b>1.0248</b>		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	<b>676.2</b>	<b>541.3</b>	<b>490.7</b>	<b>867.7</b>	<b>661.8</b>	<b>586.7</b>
Time on Time	<b>0.9982</b>	<b>1.2469</b>	<b>1.3755</b>	<b>0.7779</b>	<b>1.0199</b>	<b>1.1505</b>

<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>968.5</b>	<b>807.1</b>	<b>737.8</b>	<b>716.5</b>	<b>708.5</b>	<b>694.7</b>	<b>694.5</b>
52°	<b>643.2</b>	<b>546.4</b>	<b>514.6</b>	<b>505.9</b>	<b>502.0</b>	<b>497.8</b>	<b>492.6</b>
60°	<b>612.2</b>	<b>528.8</b>	<b>501.6</b>	<b>492.5</b>	<b>488.3</b>	<b>486.1</b>	<b>477.6</b>
75°	<b>589.9</b>	<b>517.9</b>	<b>490.9</b>	<b>475.7</b>	<b>467.9</b>	<b>463.3</b>	<b>455.4</b>
90°	<b>596.9</b>	<b>515.0</b>	<b>489.7</b>	<b>469.5</b>	<b>452.6</b>	<b>440.2</b>	<b>430.0</b>
110°	<b>602.9</b>	<b>512.0</b>	<b>478.4</b>	<b>454.8</b>	<b>440.6</b>	<b>427.7</b>	<b>409.5</b>
120°	<b>622.1</b>	<b>521.3</b>	<b>482.7</b>	<b>454.1</b>	<b>429.5</b>	<b>411.6</b>	<b>387.9</b>
135°	<b>688.1</b>	<b>560.8</b>	<b>503.1</b>	<b>473.0</b>	<b>444.3</b>	<b>416.5</b>	<b>360.4</b>
150°	<b>815.2</b>	<b>652.9</b>	<b>554.1</b>	<b>502.6</b>	<b>474.5</b>	<b>447.8</b>	<b>396.6</b>
Run VMG	<b>941.3</b>	<b>754.0</b>	<b>638.9</b>	<b>567.7</b>	<b>518.0</b>	<b>486.3</b>	<b>435.9</b>

**Certificate**

Number **000848**  
ORC Ref **GRE01009775**  
Issued On **14/05/2018**  
VPP Ver. **2018 1.00**  
Valid until **28/02/2019**

**Crew Weight**

Default 617kg  
Maximum **420kg**  
Minimum\* **315kg**  
*\*when applied by the NoR and SI*  
Non Manual Pwr **No**

**Special Scoring**

ToD	ToT
Non Spin GPH <b>636.2</b>	<b>0.9431</b>
Non Spin OSN <b>619.9</b>	<b>0.9679</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>954.9</b>	<b>780.5</b>	<b>688.3</b>	<b>642.1</b>	<b>613.3</b>	<b>590.5</b>	<b>565.2</b>
Circular Random	<b>818.5</b>	<b>667.2</b>	<b>588.3</b>	<b>543.9</b>	<b>516.9</b>	<b>498.8</b>	<b>474.7</b>
Coastal / Long Distance	<b>953.6</b>	<b>735.3</b>	<b>624.5</b>	<b>564.5</b>	<b>530.2</b>	<b>500.3</b>	<b>455.1</b>
Non Spinnaker	<b>874.2</b>	<b>706.4</b>	<b>617.2</b>	<b>566.1</b>	<b>534.9</b>	<b>514.4</b>	<b>488.7</b>

**Sails Limitations**

Headsails	Spinnakers
<b>5</b>	<b>3</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>41.9°</b>	<b>40.8°</b>	<b>39.3°</b>	<b>38.5°</b>	<b>38.3°</b>	<b>38.2°</b>	<b>38.8°</b>
Beat VMG	<b>3.72</b>	<b>4.46</b>	<b>4.88</b>	<b>5.02</b>	<b>5.08</b>	<b>5.18</b>	<b>5.18</b>
52°	<b>5.60</b>	<b>6.59</b>	<b>7.00</b>	<b>7.12</b>	<b>7.17</b>	<b>7.23</b>	<b>7.31</b>
60°	<b>5.88</b>	<b>6.81</b>	<b>7.18</b>	<b>7.31</b>	<b>7.37</b>	<b>7.41</b>	<b>7.54</b>
75°	<b>6.10</b>	<b>6.95</b>	<b>7.33</b>	<b>7.57</b>	<b>7.69</b>	<b>7.77</b>	<b>7.91</b>
90°	<b>6.03</b>	<b>6.99</b>	<b>7.35</b>	<b>7.67</b>	<b>7.95</b>	<b>8.18</b>	<b>8.37</b>
110°	<b>5.97</b>	<b>7.03</b>	<b>7.53</b>	<b>7.92</b>	<b>8.17</b>	<b>8.42</b>	<b>8.79</b>
120°	<b>5.79</b>	<b>6.91</b>	<b>7.46</b>	<b>7.93</b>	<b>8.38</b>	<b>8.75</b>	<b>9.28</b>
135°	<b>5.23</b>	<b>6.42</b>	<b>7.16</b>	<b>7.61</b>	<b>8.10</b>	<b>8.64</b>	<b>9.99</b>
150°	<b>4.42</b>	<b>5.51</b>	<b>6.50</b>	<b>7.16</b>	<b>7.59</b>	<b>8.04</b>	<b>9.08</b>
Run VMG	<b>3.82</b>	<b>4.77</b>	<b>5.63</b>	<b>6.34</b>	<b>6.95</b>	<b>7.40</b>	<b>8.26</b>
Gybe Angles	<b>141.8°</b>	<b>148.3°</b>	<b>151.3°</b>	<b>159.0°</b>	<b>180.0°</b>	<b>180.0°</b>	<b>180.0°</b>

**Class Division Length**

CDL = **9.066**

**Storm Sails Areas**

Heavy Weather Jib **28.66**  
Storm Jib (JL=9.47) **10.61**  
Storm Trysail **12.22**

**Owner**

<b>BOAT</b>	
Name <b>EST EMAR</b>	Sail Nr <b>GRE-75</b>
File <b>GR75X</b>	Data in <b>meters/kilograms</b>

<b>INCLINING TEST AND FREEBOARDS</b>			
Inclining Test <b>Current Inclining</b>			
Flotation date <b>04/05/2006</b>		SG <b>1.0250</b>	
FFM <b>1.321</b>	FF <b>1.324</b>	SFFP <b>0.075</b>	
FAM <b>0.980</b>	FA <b>0.983</b>	SAFP <b>10.275</b>	
W1 <b>70.0</b>	PD1 <b>554.0</b>	WD <b>11.240</b>	
W2 <b>70.0</b>	PD2 <b>558.9</b>	GSA <b>1.0</b>	
W3 <b>70.0</b>	PD3 <b>554.0</b>	RSA <b>1.0</b>	
W4 <b>70.0</b>	PD4 <b>552.5</b>	PLM <b>9000.0</b>	
LCF from stem on CL / on sheer		<b>5.957 / 6.162</b>	
Maximum beam station from stem		<b>7.300</b>	
RM Measured		<b>111.7kg-m</b>	
RM Default		<b>121.2kg-m</b>	
Limit of positive stability / Stab.Index		<b>116.3° / 117.0</b>	
Freeboard at mast at 4.185		<b>1.109</b>	



World Leader in Rating Technology

**2018**

**IMS Measurement Certificate**

<b>RIG</b>			
Forestay Tension <b>Aft</b>	Spreaders <b>2</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>14.250</b>	E <b>4.900</b>	MDT1 <b>0.125</b>	MW <b>0.184</b>
IG <b>14.500</b>	J <b>4.185</b>	MDL1 <b>0.185</b>	GO <b>0.204</b>
ISP <b>14.530</b>	SFJ	MDT2 <b>0.122</b>	BD <b>0.220</b>
BAS <b>1.745</b>	SPL <b>4.180</b>	MDL2 <b>0.140</b>	MWT <b>156.00</b>
FSP <b>0.068</b>	TPS	TL <b>1.230</b>	MCG <b>4.600</b>

<b>Certificate</b>	
Number <b>000848</b>	
ORC Ref <b>GRE01009775</b>	
Issued On <b>14/05/2018</b>	
VPP Ver. <b>2018 1.00</b>	
Valid until <b>28/02/2019</b>	

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

<b>PROPELLER</b>			
Installation <b>Strut</b>	PRD <b>0.415</b>		
Type <b>Folding 2 blades</b>	PBW <b>0.128</b>		
Twin Screw <b>No</b>	PIPA <b>0.0033</b>		
ST1 <b>0.042</b>	ST3 <b>0.182</b>	ST5 <b>0.255</b>	
ST2 <b>0.178</b>	ST4 <b>0.112</b>	EDL <b>2.390</b>	

<b>COMMENTS</b>	
Based on OD certificate. OD TRIM PLUS TABLE AND CUSHIONS. ex "NIKI-CHRISTINA".	

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



Invalid for racing

World Leader In Rating Technology

<b>CENTERBOARD</b>	
<b>N/A</b>	

<b>SAILS (Maximum Areas)</b>									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.205	1.10	1.86	3.17	4.10	41.74	42.58	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL				
	14.31	14.31	14.31	8.20	7.50	96.12		SL · (SFL + 4·SHW) / 6	
Asymmetric	SLU	SLE	SL	SHW	SFL				
	14.73	13.42	14.07	7.32	7.43	86.12		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)												
HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment
0.12	0.63	1.19	2.27	3.42	4.37	14.51	32.92	Y		06/05/2018	Unknow	3DI

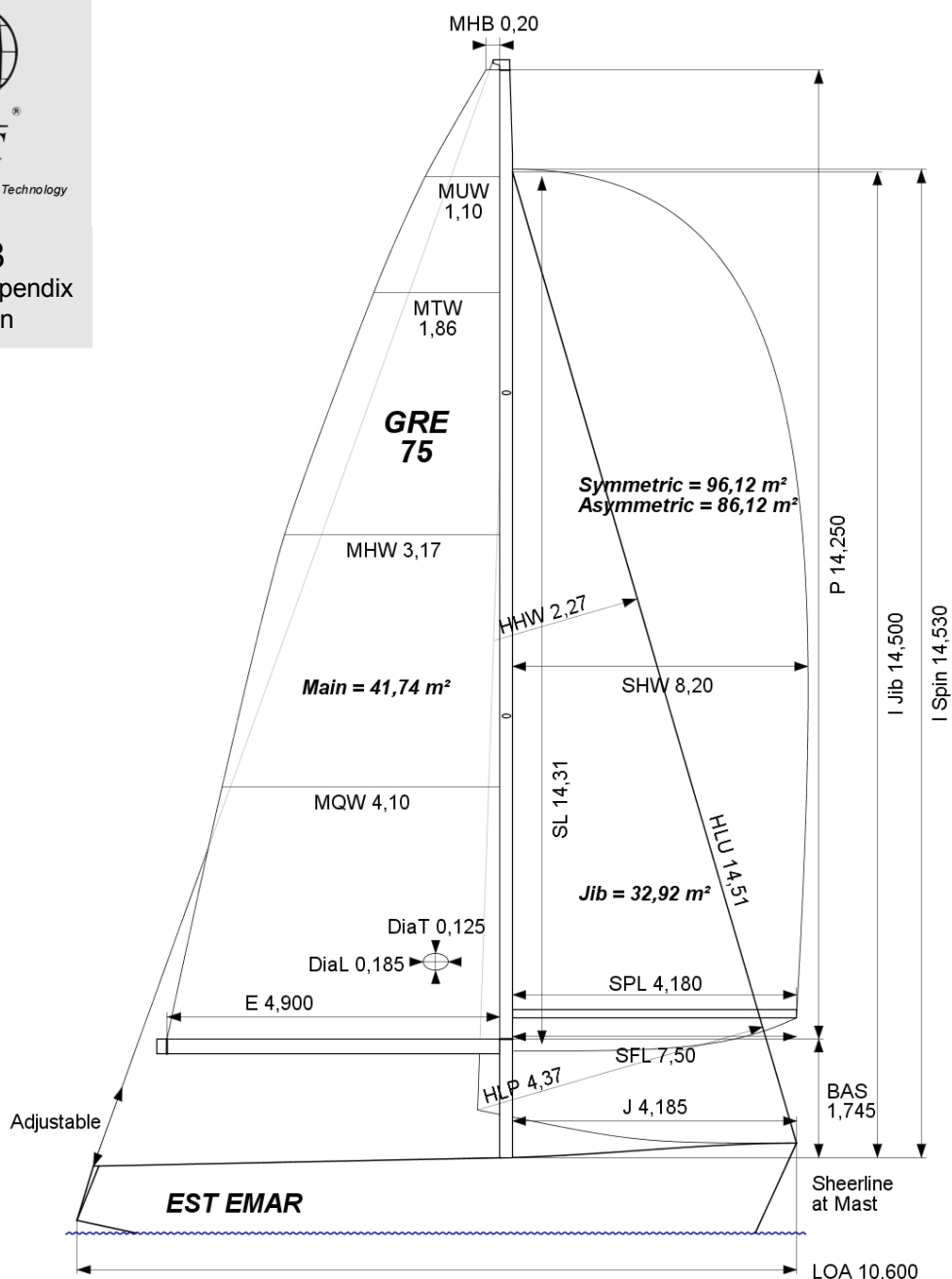
<b>MEASUREMENT INVENTORY</b>				
Measurer <b>Gerd Kall KALL</b>				
Date <b>04/05/2006</b>				
Comment				
Id	Item	Weight	Distance	VCG Description
4	Anchor	40.0	6.25	Anchor 4
4	Chain	8.5	5.50	Warp
4	Tools	43.0	7.50	Tools
2	Tools	8.0	5.00	Safety
Id	Item	Maker	Model	
1	Engine	Yanmar	3YM20C	
Id	Item	Weight	Description	
4	Deck Gear	9.2	0	

<b>MEASUREMENT INVENTORY</b>						
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG Condtn Description
1	Tank fuel		st.stl	60.0	6.15	0-0 fuel
2	Tank H2O		pvc	120.0	5.52	0-0 Water
3	Tank gas		steel	2.0	9.45	0-0 LPG gas
Id	Item	Weight	Distance	VCG Description		
1	Battery	46.8	4.85	120 Ah gel - services		
2	Battery	18.4	5.18	55 Ah - engine		
1	Misc	20.0	5.52	Table		



World Leader in Rating Technology

2018  
Certificate Appendix  
Sail Plan



**SAILS INVENTORY**

**MAINSAIL (1)**

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.205	1.10	1.86	3.17	4.10	41.74	VARVARIGOS	06/05/2018	NORTH SAIL	Carbon	3DI

**HEADSAILS (1)**

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.12	0.63	1.19	2.27	3.42	4.37	14.51	104%	32.92	Y		VARVARI	06/05/2018	NORTH SAIL	Unknow	3DI

**SYMMETRIC SPINNAKERS (3)**

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
ORC	14.31	14.31	14.31	8.20	7.50	96.12					* Copied from legacy *
2	14.36	14.36	14.36	7.75	7.45	92.02	VARVARIGOS	06/05/2018		Polyester	
1	14.25	14.25	14.25	7.74	7.35	90.99	VARVARIGOS	06/05/2018		Polyester	

**ASYMMETRIC SPINNAKERS (1)**

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
1	14.73	13.42	14.07	7.32	7.43	86.12	asym	VARVARIGOS	06/05/2018		Polyester	