

BOAT
Name <b>SOPHIA</b> Sail Nr <b>EST 480</b>

GPH
<b>624,0</b>

HULL	Length Overall <b>12,070 m</b>	Maximum Beam <b>3,889 m</b>	Displacement <b>8 339 kg</b>	Draft <b>2,107 m</b>	IMS Reg. Division <b>Cruiser/Racer</b>	Dynamic Allowance <b>0,926%</b>	Fwd Accommodation <b>Yes</b>	Hull Construction <b>Solid</b>	Carbon Rudder <b>No</b>	Trim Tab <b>No</b>
IMS L <b>11,099</b>	VCGD <b>0,044</b>	VCGM <b>0,038</b>	Sink <b>23,99 kg/mm</b>	Wetted Area <b>31,48 m<sup>2</sup></b>						



**2009**  
ORC International  
Certificate

GENERAL
Class <b>DUF0UR 40</b>
Designer <b>Felci Yachts</b>
Builder <b>DUF0UR SA</b>
Series <b>11.2002</b>
Age <b>01.2006</b>
Age Allowance <b>0,455%</b>
Offset File <b>DUF_40.OFF - 2.09.2005 10:20:22</b>
Measurement by <b>A.Tetsmann - 28.05.2007</b>

SCORING OPTIONS	OFFSHORE COASTAL / LONG DISTANCE			INSHORE WINDWARD / LEEWARD		
Time On Distance	<b>624,0</b>			<b>701,1</b>		
Time On Time	<b>0,9615</b>			<b>0,9628</b>		
Performance Line	PLT <b>0,798</b>	PLD <b>74,4</b>		PLT <b>0,889</b>	PLD <b>222,7</b>	
Triple Number	Low <b>0,9227</b>	Medium <b>1,2300</b>	High <b>1,4076</b>	Low <b>0,6969</b>	Medium <b>0,9752</b>	High <b>1,1591</b>

Rating Office
Estonian Yachting Union Veiko Rosme Regati 1, 11911, Tallinn Estonia

TIME ALLOWANCES	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1112,4</b>	<b>910,8</b>	<b>792,0</b>	<b>731,0</b>	<b>700,3</b>	<b>681,0</b>	<b>663,3</b>
52°	<b>712,2</b>	<b>587,1</b>	<b>525,9</b>	<b>492,5</b>	<b>476,0</b>	<b>467,0</b>	<b>458,5</b>
60°	<b>663,7</b>	<b>550,6</b>	<b>503,0</b>	<b>472,5</b>	<b>455,4</b>	<b>448,1</b>	<b>440,6</b>
75°	<b>624,7</b>	<b>522,9</b>	<b>472,9</b>	<b>450,7</b>	<b>440,4</b>	<b>426,9</b>	<b>414,7</b>
90°	<b>589,0</b>	<b>501,0</b>	<b>460,0</b>	<b>437,3</b>	<b>424,7</b>	<b>417,9</b>	<b>402,2</b>
110°	<b>609,6</b>	<b>514,4</b>	<b>470,9</b>	<b>444,4</b>	<b>424,0</b>	<b>404,7</b>	<b>381,8</b>
120°	<b>650,2</b>	<b>535,5</b>	<b>485,0</b>	<b>453,8</b>	<b>432,8</b>	<b>413,1</b>	<b>376,3</b>
135°	<b>748,8</b>	<b>602,3</b>	<b>520,9</b>	<b>478,7</b>	<b>451,3</b>	<b>431,9</b>	<b>395,9</b>
150°	<b>898,9</b>	<b>704,2</b>	<b>590,3</b>	<b>521,2</b>	<b>481,3</b>	<b>454,3</b>	<b>417,6</b>
Run VMG	<b>1038,0</b>	<b>813,2</b>	<b>681,7</b>	<b>591,6</b>	<b>533,9</b>	<b>494,1</b>	<b>444,8</b>

Certificate
Number <b>EST480</b> ORC Ref <b>EST00000429</b> Issued On <b>30.06.2009</b> VPP Ver. <b>1.11</b> Valid until <b>31.12.2009</b>

Crew Weight
Declared <b>760 kg</b> Default* <b>799 kg</b>

Special Scoring
ToD ToT Double <b>625,0 0,9600</b> Non Spinnaker <b>668,7 0,8972</b>

Selected Courses	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Windward / Leeward	<b>1094,8</b>	<b>873,9</b>	<b>747,5</b>	<b>670,9</b>	<b>624,5</b>	<b>594,1</b>	<b>560,1</b>
Circular Random	<b>873,8</b>	<b>699,6</b>	<b>604,6</b>	<b>548,4</b>	<b>513,3</b>	<b>490,1</b>	<b>461,3</b>
Ocean for PCS	<b>934,5</b>	<b>732,1</b>	<b>617,9</b>	<b>547,6</b>	<b>501,4</b>	<b>469,0</b>	<b>424,5</b>
Non Spinnaker	<b>954,9</b>	<b>756,8</b>	<b>646,9</b>	<b>580,7</b>	<b>538,7</b>	<b>510,9</b>	<b>476,8</b>

Sails Limitations
Genoa <b>0</b>   Jibs <b>4</b>   Spinnakers <b>3</b>
Spinnaker configuration <b>Symmetric</b>

Storm Sails Areas
Heavy Weather Jib <b>32,50</b> Storm Jib (JL=10,09) <b>12,04</b> Storm Trysail <b>13,68</b>

Velocity Prediction in Knots for True Wind Speeds	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	<b>44,8°</b>	<b>43,0°</b>	<b>43,2°</b>	<b>41,0°</b>	<b>39,7°</b>	<b>39,0°</b>	<b>38,6°</b>
Beat VMG	<b>3,24</b>	<b>3,95</b>	<b>4,55</b>	<b>4,93</b>	<b>5,14</b>	<b>5,29</b>	<b>5,43</b>
52°	<b>5,05</b>	<b>6,13</b>	<b>6,84</b>	<b>7,31</b>	<b>7,56</b>	<b>7,71</b>	<b>7,85</b>
60°	<b>5,42</b>	<b>6,54</b>	<b>7,16</b>	<b>7,62</b>	<b>7,91</b>	<b>8,03</b>	<b>8,17</b>
75°	<b>5,76</b>	<b>6,88</b>	<b>7,61</b>	<b>7,99</b>	<b>8,18</b>	<b>8,43</b>	<b>8,68</b>
90°	<b>6,11</b>	<b>7,19</b>	<b>7,83</b>	<b>8,23</b>	<b>8,48</b>	<b>8,61</b>	<b>8,95</b>
110°	<b>5,91</b>	<b>7,00</b>	<b>7,65</b>	<b>8,10</b>	<b>8,49</b>	<b>8,90</b>	<b>9,43</b>
120°	<b>5,54</b>	<b>6,72</b>	<b>7,42</b>	<b>7,93</b>	<b>8,32</b>	<b>8,71</b>	<b>9,57</b>
135°	<b>4,81</b>	<b>5,98</b>	<b>6,91</b>	<b>7,52</b>	<b>7,98</b>	<b>8,33</b>	<b>9,09</b>
150°	<b>4,00</b>	<b>5,11</b>	<b>6,10</b>	<b>6,91</b>	<b>7,48</b>	<b>7,92</b>	<b>8,62</b>
Run VMG	<b>3,47</b>	<b>4,43</b>	<b>5,28</b>	<b>6,09</b>	<b>6,74</b>	<b>7,29</b>	<b>8,09</b>
Gybe Angles	<b>142,2°</b>	<b>148,5°</b>	<b>149,1°</b>	<b>159,8°</b>	<b>168,6°</b>	<b>172,0°</b>	<b>175,9°</b>

Owner
OÜ RIS GROUP Suur-Ameerika 29-10 Tallinn, Estonia SMS
I certify that I understand my responsibilities under ORC Rules and Regulations
Signature

<b>BOAT</b>	
Name <b>SOPHIA</b>	Sail Nr <b>EST 480</b>
File <b>EST0480.dxt</b>	Data in <b>meters/kilograms</b>

<b>INCLINING TEST AND FREEBOARDS</b>		
Inclining Test <b>Current Inclining</b>		
Flotation date <b>28.01.2007</b>		SG <b>1,0050</b>
FFM <b>1,380</b>	FF <b>1,389</b>	SFFP <b>0,502</b>
FAM <b>1,155</b>	FA <b>1,161</b>	SAFP <b>11,403</b>
W1 <b>98,200</b>	PD1 <b>203,0</b>	WD <b>11,750</b>
W2 <b>98,200</b>	PD2 <b>202,0</b>	GSA <b>12,6</b>
W3 <b>98,200</b>	PD3 <b>202,0</b>	RSA <b>4298,7</b>
W4 <b>98,200</b>	PD4 <b>204,0</b>	PLM <b>2005,</b>
Maximum beam station from stem		<b>7,740</b>
RM Measured / Default		<b>199,1 / 192,0</b>
Limit of positive stability		<b>117,9°</b>
Stability Index		<b>121,8</b>
Freeboard at mast at 4,390		<b>1,235</b>



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IMS Measurement  
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<b>RIG</b>			
Forestay Tension <b>Aft</b>	Spreaders <b>2</b>		
Inner Forestay <b>None Fitted</b>	Runners <b>0</b>		
Carbon Mast <b>No</b>	Jumpers <b>None</b>		
Taper Hollows <b>No</b>	w/o Backstay <b>No</b>		
P <b>14,750</b>	E <b>5,300</b>	MDT1 <b>0,112</b>	TL <b>0,700</b>
IG <b>15,420</b>	J <b>4,190</b>	MDL1 <b>0,227</b>	MWT
ISP <b>15,500</b>	SFJ <b>0,200</b>	MDT2 <b>0,112</b>	MCG
SPS <b>2,910</b>	SPL <b>4,190</b>	MDL2 <b>0,225</b>	CPW <b>2,400</b>
BAS <b>1,800</b>	TPS	MW <b>0,227</b>	BD <b>0,160</b>
BAL <b>0,150</b>	FSP <b>0,076</b>	GO <b>0,253</b>	BWT

<b>HEAVY ITEMS</b>			
Bow Thruster <b>No</b>	Generator <b>No</b>	Air Condition <b>No</b>	
Windlass <b>Yes</b>	Jib Furler <b>No</b>	Desalinator <b>No</b>	
Heavy Deck <b>Yes</b>	Main Furler <b>No</b>		
Headliners <b>No</b>	Water Heater <b>No</b>		
Anchor Weight <b>20,0</b>	Heavy Items Adjustment	<b>0,0039</b>	
Anchor LCG <b>0,20</b>	Total Gyradius Adjustment	<b>0,0379</b>	

<b>PROPELLER</b>		
Installation <b>Strut Drive</b>	PRD <b>0,410</b>	
Type <b>Folding</b>	PBW	
Twin Screw <b>No</b>	PIPA <b>0,0039</b>	
ST1 <b>0,066</b>	ST3	ST5 <b>0,300</b>
ST2	ST4 <b>0,107</b>	EDL <b>2,700</b>

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

<b>WATER BALLAST</b>	
N/A	

<b>COMMENTS</b>	
N/A	

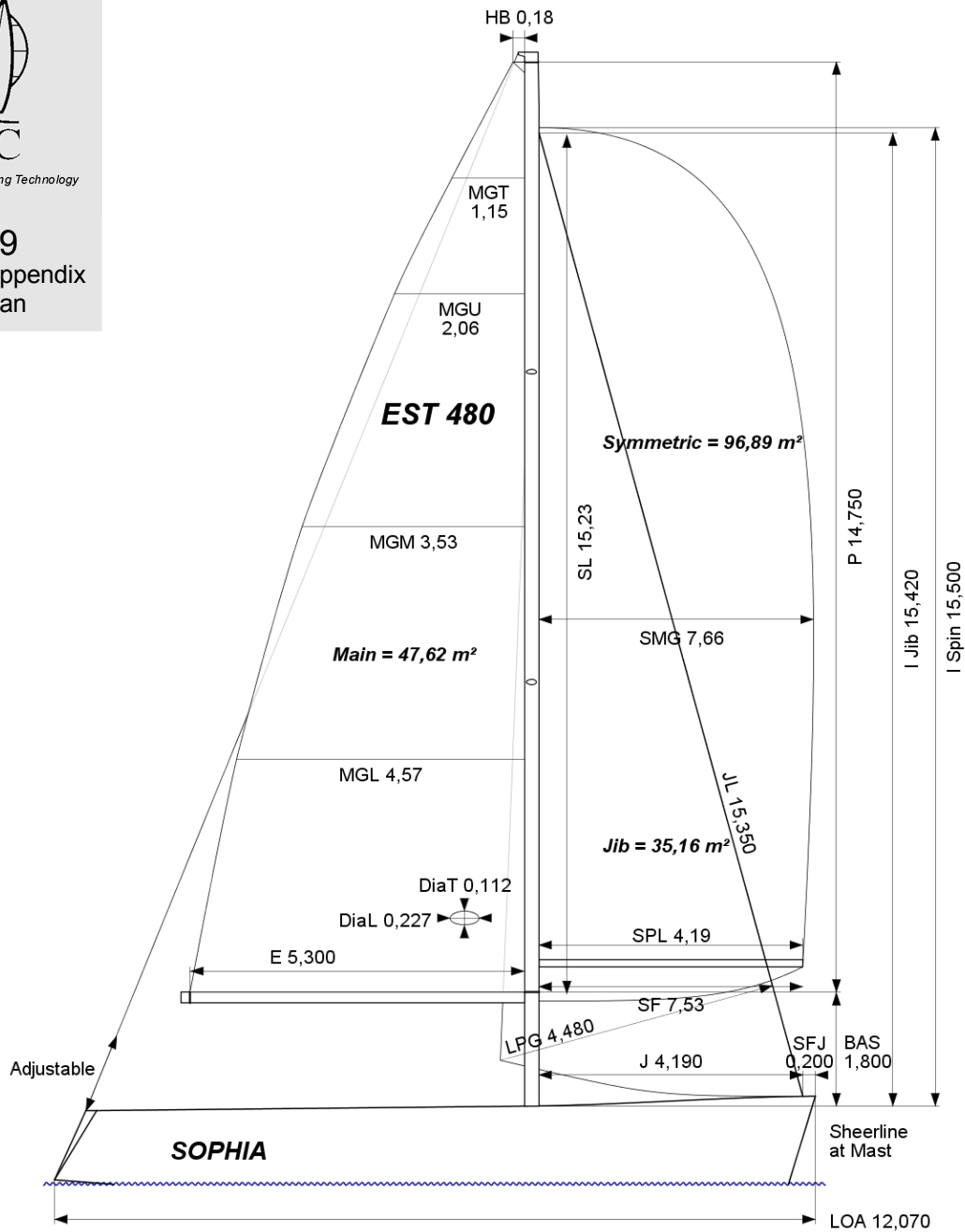
<b>CENTERBOARD</b>	
N/A	

<b>SAILS (Maximum Areas)</b>									
<b>Mainsail</b>	<b>HB</b>	<b>MGT</b>	<b>MGU</b>	<b>MGM</b>	<b>MGL</b>	<b>MSW</b>	<b>Area</b>	<b>Formula</b>	
	0,180	1,15	2,06	3,53	4,57	22,10	47,62	P/8 · (E + 2·MGL+ 2·MGM + 1.5·MGU + MGT + 0.5·HB)	
<b>Jib/Genoa</b>	<b>JH</b>	<b>JGT</b>	<b>JGU</b>	<b>JGM</b>	<b>JGL</b>	<b>JL</b>	<b>LPG</b>		
	0,06	0,62	1,20	2,31	3,41	15,35	4,48	0.1125·JL·(1.445·LPG+2·JGL+2·JGM+1.5·JGU+JGT+0.5·JH)	
<b>Symmetric</b>	<b>SL</b>	<b>SMG</b>	<b>SF</b>						
	15,23	7,66	7,53				96,89	SL · (SF + 4·SMG) / 6	



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Certificate Appendix  
Sail Plan



SAILS INVENTORY														
MAINSAIL														
Id	HB	MGT	MGU	MGM	MGL	MSW	Area	Measur	Meas.Dat	Manufacturer	Material	Comment		
ORC	0,180	1,15	2,06	3,53	4,57	22,10	47,62					* Copied from legacy *		
JIBS / GENOAS														
Id	JH	JGT	JGU	JGM	JGL	LPG	JL	Ovrlp	Area	Measure	Meas.Dat	Manufacturer	Material	Comment
1	0,06	0,62	1,20	2,31	3,41	4,48	15,35	107%	35,17				Unknown	
2	0,00	0,00	0,00	0,00	0,00	4,47	15,32	107%	34,24				Unknown	
SYMMETRIC SPINNAKERS														
Id	SL	SMG	SF	Area	Measur	Meas.Dat	Manufacturer	Material	Comment					
1	15,23	6,97	7,49	89,78				Unknown						
2	15,25	7,54	7,32	95,26				Unknown						
3	15,23	7,66	7,53	96,89				Unknown						
ASYMMETRIC SPINNAKERS														
Id	SLU	SLE	ASL	AMG	ASF	Area	Kind	Measur	Meas.Dat	Manufacturer	Material	Comment		