

<b>BOAT</b>
Name <b>TUULE</b>
Sail Nr <b>EST 408</b>

<b>GPH</b>
<b>575,2</b>

<b>HULL</b>
Length Overall <b>13,352 m</b>
Maximum Beam <b>3,965 m</b>
Displacement <b>10.105 kg</b>
Draft <b>2,551 m</b>
IMS Reg. Division <b>Cruiser/Racer</b>
Dynamic Allowance <b>0,327%</b>
Fwd Accommodation <b>Yes</b>
Hull Construction <b>Solid</b>
Carbon Rudder <b>No</b>
Crew Arm Extension
IMS L <b>12,144</b> VCGD <b>0,210</b> VCGM <b>0,226</b>
Sink <b>28,34 kg/mm</b> Wetted Area <b>37,11 m<sup>2</sup></b>



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**2009**  
ORC International  
Certificate

<b>GENERAL</b>
Class <b>First 44.7</b>
Designer <b>B.Farr</b>
Builder <b>Beneteau S.A.</b>
Series <b>11/2003</b>
Age <b>05/2006</b>
Age Allowance <b>0,390%</b>
Offset File <b>F231.OFF - 25/1/2014 10:05:42</b>
Measurement by <b>A.Tetsmann - 10/07/2008</b>

<b>SCORING OPTIONS</b>						
	<b>OFFSHORE</b>			<b>INSHORE</b>		
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time On Distance	<b>575,2</b>			<b>644,8</b>		
Time On Time	<b>1,0431</b>			<b>1,0468</b>		
Performance Line	PLT	PLD		PLT	PLD	
	<b>0,905</b>	<b>98,1</b>		<b>1,059</b>	<b>280,1</b>	
Triple Number	Low	Medium	High	Low	Medium	High
	<b>1,0188</b>	<b>1,3265</b>	<b>1,4982</b>	<b>0,7632</b>	<b>1,0537</b>	<b>1,2379</b>

**Rating Office**

Offshore  
Racing  
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<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>980,3</b>	<b>801,2</b>	<b>709,4</b>	<b>668,3</b>	<b>644,3</b>	<b>629,6</b>	<b>618,1</b>
52°	<b>630,1</b>	<b>522,0</b>	<b>477,6</b>	<b>458,4</b>	<b>447,4</b>	<b>440,8</b>	<b>435,3</b>
60°	<b>574,8</b>	<b>490,0</b>	<b>458,1</b>	<b>439,8</b>	<b>431,1</b>	<b>425,7</b>	<b>420,7</b>
75°	<b>518,8</b>	<b>457,8</b>	<b>432,0</b>	<b>420,1</b>	<b>411,9</b>	<b>405,9</b>	<b>398,8</b>
90°	<b>508,3</b>	<b>453,7</b>	<b>426,0</b>	<b>408,7</b>	<b>396,6</b>	<b>389,5</b>	<b>378,9</b>
110°	<b>550,6</b>	<b>481,9</b>	<b>442,2</b>	<b>418,1</b>	<b>398,2</b>	<b>382,5</b>	<b>362,2</b>
120°	<b>604,7</b>	<b>502,2</b>	<b>456,1</b>	<b>427,7</b>	<b>407,3</b>	<b>387,3</b>	<b>355,5</b>
135°	<b>707,2</b>	<b>564,1</b>	<b>491,3</b>	<b>451,9</b>	<b>426,6</b>	<b>407,8</b>	<b>371,0</b>
150°	<b>852,8</b>	<b>668,1</b>	<b>558,3</b>	<b>494,2</b>	<b>456,2</b>	<b>430,6</b>	<b>394,5</b>
Run VMG	<b>984,7</b>	<b>771,5</b>	<b>644,7</b>	<b>563,2</b>	<b>508,5</b>	<b>469,9</b>	<b>422,1</b>

<b>Certificate</b>
Number <b>EST408</b>
ORC Ref <b>EST00000204</b>
Issued On <b>21/5/2009</b>
VPP Ver. <b>1.11</b>
Valid until <b>31/12/2009</b>

<b>Crew Weight</b>
Declared <b>800 kg</b>
Default* <b>873 kg</b>
Non Manual Pwr <b>No</b>

<b>Special Scoring</b>
ToD ToT
D. Hand OSN <b>577,9</b> <b>1,0383</b>
Non Spin. OSN <b>613,5</b> <b>0,9780</b>
N/S Perf. Line

<b>Selected Courses</b>							
Windward / Leeward	<b>1000,3</b>	<b>798,6</b>	<b>687,9</b>	<b>623,7</b>	<b>583,2</b>	<b>556,0</b>	<b>525,5</b>
Circular Random	<b>794,9</b>	<b>640,8</b>	<b>557,9</b>	<b>509,5</b>	<b>479,5</b>	<b>459,7</b>	<b>434,9</b>
Ocean for PCS	<b>853,2</b>	<b>672,1</b>	<b>571,0</b>	<b>509,2</b>	<b>468,6</b>	<b>440,0</b>	<b>400,3</b>
Non Spinnaker	<b>867,5</b>	<b>690,7</b>	<b>593,9</b>	<b>536,3</b>	<b>500,2</b>	<b>476,5</b>	<b>447,8</b>

<b>Sails Limitations</b>
Genoa's <b>4</b>   Jibs <b>3</b>   Spinnakers <b>4</b>
Spinnaker configuration <b>Symmetric + Code 0</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>44,5°</b>	<b>43,9°</b>	<b>41,6°</b>	<b>39,5°</b>	<b>38,4°</b>	<b>37,7°</b>	<b>37,4°</b>
Beat VMG	<b>3,67</b>	<b>4,49</b>	<b>5,07</b>	<b>5,39</b>	<b>5,59</b>	<b>5,72</b>	<b>5,82</b>
52°	<b>5,71</b>	<b>6,90</b>	<b>7,54</b>	<b>7,85</b>	<b>8,05</b>	<b>8,17</b>	<b>8,27</b>
60°	<b>6,26</b>	<b>7,35</b>	<b>7,86</b>	<b>8,18</b>	<b>8,35</b>	<b>8,46</b>	<b>8,56</b>
75°	<b>6,94</b>	<b>7,86</b>	<b>8,33</b>	<b>8,57</b>	<b>8,74</b>	<b>8,87</b>	<b>9,03</b>
90°	<b>7,08</b>	<b>7,94</b>	<b>8,45</b>	<b>8,81</b>	<b>9,08</b>	<b>9,24</b>	<b>9,50</b>
110°	<b>6,54</b>	<b>7,47</b>	<b>8,14</b>	<b>8,61</b>	<b>9,04</b>	<b>9,41</b>	<b>9,94</b>
120°	<b>5,95</b>	<b>7,17</b>	<b>7,89</b>	<b>8,42</b>	<b>8,84</b>	<b>9,30</b>	<b>10,13</b>
135°	<b>5,09</b>	<b>6,38</b>	<b>7,33</b>	<b>7,97</b>	<b>8,44</b>	<b>8,83</b>	<b>9,70</b>
150°	<b>4,22</b>	<b>5,39</b>	<b>6,45</b>	<b>7,28</b>	<b>7,89</b>	<b>8,36</b>	<b>9,13</b>
Run VMG	<b>3,66</b>	<b>4,67</b>	<b>5,58</b>	<b>6,39</b>	<b>7,08</b>	<b>7,66</b>	<b>8,53</b>
Gybe Angles	<b>141,4°</b>	<b>145,8°</b>	<b>148,6°</b>	<b>158,9°</b>	<b>167,6°</b>	<b>171,8°</b>	<b>175,9°</b>

<b>Storm Sails Areas</b>
Heavy Weather Jib <b>42,47</b>
Storm Jib (JL=11,53) <b>15,73</b>
Storm Trysail <b>18,78</b>

<b>Owner</b>

<b>BOAT</b>	
Name <b>TUULE</b>	Sail Nr <b>EST 408</b>
File <b>(0)</b>	Data in <b>meters/kilograms</b>

<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>17,210</b>	E <b>6,235</b> MDT1 <b>0,140</b> TL <b>1,200</b>
IG <b>17,615</b>	J <b>4,770</b> MDL1 <b>0,255</b> MWT <b>347,00</b>
ISP <b>17,510</b>	SFJ <b>0,000</b> MDT2 <b>0,130</b> MCG <b>6,300</b>
SPS	SPL <b>4,770</b> MDL2 <b>0,200</b> CPW
BAS <b>1,800</b>	TPS <b>4,880</b> MW <b>0,255</b> BD
BAL	FSP <b>0,050</b> GO <b>0,288</b> BWT <b>46,20</b>

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

<b>COMMENTS</b>


<b>INCLINING TEST AND FREEBOARDS</b>		
Inclining Test <b>Current Inclining</b>		
Flotation date <b>26/05/2006</b>	SG <b>1,0020</b>	
FFM <b>1,585</b>	FF <b>1,595</b>	SFFP <b>0,322</b>
FAM <b>1,080</b>	FA <b>1,087</b>	SAFP <b>12,761</b>
W1 <b>125,00</b>	PD1 <b>210,0</b>	WD <b>11,190</b>
W2 <b>125,00</b>	PD2 <b>208,0</b>	GSA <b>12,6</b>
W3 <b>125,00</b>	PD3 <b>210,0</b>	RSA <b>4298,7</b>
W4 <b>125,00</b>	PD4 <b>209,0</b>	PLM <b>2005,0</b>
LCF from stem on CL / on sheer		<b>7,571 / 0,000</b>
Maximum beam station from stem		<b>8,646</b>
RM Measured / Default		<b>233,9 / 270,4</b>
Limit of positive stability / Stab.Index		<b>107,6° / 114,1</b>
Freeboard at mast at 4,770		<b>1,357</b>

<b>PROPELLER</b>		
Installation <b>Strut</b>	PRD <b>0,470</b>	
Type <b>Folding</b>	PBW	
Twin Screw <b>No</b>	PIPA <b>0,0031</b>	
ST1 <b>0,047</b>	ST3	
ST2	ST4 <b>0,098</b> EDL <b>2,630</b>	
ST5 <b>0,275</b>		

<b>MOVEABLE BALLAST</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>Area</b>	<b>Area (r)</b>	<b>Formula</b>	
	0,180	1,20	2,18	3,80	5,04		61,26	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>		
	0,10	0,80	1,55	3,16	4,85	17,19	6,53	55,37	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>						
	17,10	8,55	8,33	121,21					
<b>Asymmetric</b>									
Not Available									
<b>Code Zero</b>	<b>SLU</b>	<b>SLE</b>	<b>ASL</b>	<b>AMG</b>	<b>ASF</b>				
	16,70	15,85	16,27	6,63	8,85	95,94			
						ASL · (ASF + 4·AMG) / 6			




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**2009**  
IMS Measurement  
Certificate

**Certificate**

Number **EST408**  
ORC Ref **EST00000204**  
Issued On **21/5/2009**  
VPP Ver. **1.11**  
Valid until **31/12/2009**

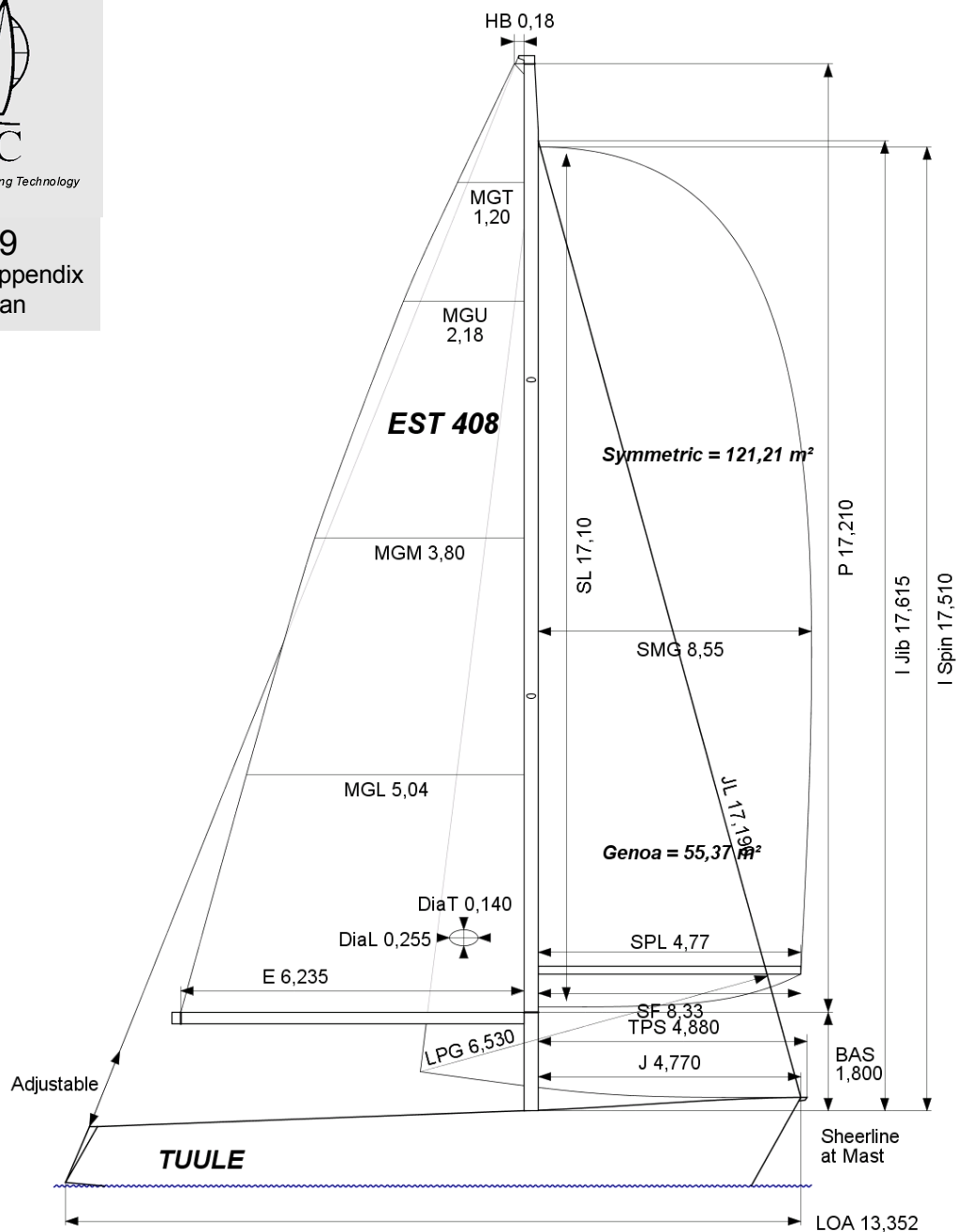


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**2009**  
Certificate Appendix  
Sail Plan



**SAILS INVENTORY**

**MANSAIL**

Id	HB	MGT	MGU	MGM	MGL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0,180	1,20	2,18	3,80	5,04	61,26	AT	18/05/2009		Unknown	

**JIBS / GENOAS**

Id	JH	JGT	JGU	JGM	JGL	LPG	JL	Ovrlp	Area	Measurer	Meas.Date	Manufacture	Material	Comment
2	0,10	0,80	1,55	3,16	4,85	6,53	17,19	137%	55,37		18/05/2009		Unknown	
1	0,09	0,66	1,28	2,45	3,72	4,99	16,50	105%	41,16		18/05/2009		Unknown	

**SYMMETRIC SPINNAKERS**

Id	SL	SMG	SF	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	17,10	8,55	8,33	121,21	AT	18/05/2009		Unknown	
2	17,00	8,28	8,40	117,64	AT	18/05/2009		Unknown	

**ASYMMETRIC SPINNAKERS**

Id	SLU	SLE	ASL	AMG	ASF	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
1	16,70	15,85	16,27	6,63	8,85	95,94	code0	AT	18/05/2009		Unknown	