

<b>BOAT</b>
Name <b>Elan 410 R</b> Sail Nr <b>SLO 41</b>

<b>GPH</b>
<b>574,3</b>

<b>HULL</b>
Length Overall <b>12,259 m</b>
Maximum Beam <b>3,859 m</b>
Displacement <b>7.224 kg</b>
Draft <b>2,335 m</b>
IMS Reg. Division <b>Cruiser/Racer</b>
Dynamic Allowance <b>0,076%</b>
Fwd Accommodation <b>No</b>
Hull Construction <b>Cored</b>
Carbon Rudder <b>No</b>
Trim Tab <b>No</b>
IMS L <b>11,395</b> VCGD <b>0,006</b> VCGM <b>0,039</b>
Sink <b>23,53 kg/mm</b> Wetted Area <b>30,99 m<sup>2</sup></b>



**2009**  
ORC International  
Certificate

<b>GENERAL</b>
Class <b>Elan 410</b>
Designer <b>Humphreys</b>
Builder <b>Elan</b>
Series <b>05.2007</b>
Age <b>02.2008</b>
Age Allowance <b>0,130%</b>
Offset File <b>ELAN410R.OFF - 6.5.2008 22:12:42</b>
Measurement by <b>Grubisa - 01.03.2008</b>

<b>SCORING OPTIONS</b>	<b>OFFSHORE</b>			<b>INSHORE</b>		
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time On Distance	<b>574,3</b>			<b>640,5</b>		
Time On Time	<b>1,0448</b>			<b>1,0538</b>		
Performance Line	PLT	PLD		PLT	PLD	
	<b>0,902</b>	<b>94,5</b>		<b>1,081</b>	<b>287,2</b>	
Triple Number	Low	Medium	High	Low	Medium	High
	<b>1,0189</b>	<b>1,3289</b>	<b>1,5084</b>	<b>0,7736</b>	<b>1,0589</b>	<b>1,2454</b>

**Rating Office**  
Jadralska zveza Slovenije  
Kopališko nabrežje 5  
SI-6000 Koper  
Slovenija

JADRALNA ZVEZA SLOVENIJE  
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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>963,7</b>	<b>787,4</b>	<b>706,2</b>	<b>664,2</b>	<b>639,2</b>	<b>624,2</b>	<b>612,8</b>
52°	<b>618,8</b>	<b>520,7</b>	<b>474,3</b>	<b>456,0</b>	<b>445,8</b>	<b>439,9</b>	<b>435,2</b>
60°	<b>580,2</b>	<b>496,3</b>	<b>455,3</b>	<b>439,4</b>	<b>431,0</b>	<b>425,5</b>	<b>420,6</b>
75°	<b>552,0</b>	<b>479,3</b>	<b>443,3</b>	<b>422,4</b>	<b>410,7</b>	<b>403,9</b>	<b>396,5</b>
90°	<b>551,3</b>	<b>468,5</b>	<b>432,2</b>	<b>416,8</b>	<b>406,5</b>	<b>390,0</b>	<b>376,5</b>
110°	<b>562,4</b>	<b>480,1</b>	<b>440,7</b>	<b>415,1</b>	<b>392,1</b>	<b>378,4</b>	<b>361,7</b>
120°	<b>597,5</b>	<b>502,1</b>	<b>453,6</b>	<b>426,1</b>	<b>402,0</b>	<b>379,2</b>	<b>346,3</b>
135°	<b>701,6</b>	<b>560,5</b>	<b>489,4</b>	<b>449,4</b>	<b>424,8</b>	<b>402,8</b>	<b>359,6</b>
150°	<b>845,7</b>	<b>660,3</b>	<b>556,3</b>	<b>493,0</b>	<b>453,8</b>	<b>429,2</b>	<b>388,5</b>
Run VMG	<b>976,5</b>	<b>762,4</b>	<b>642,2</b>	<b>564,1</b>	<b>507,9</b>	<b>468,2</b>	<b>420,6</b>

<b>Certificate</b>
Number <b>I0409</b>
ORC Ref <b>SLO00000392</b>
Issued On <b>6.6.2009</b>
VPP Ver. <b>1.11</b>
Valid until <b>31.12.2009</b>

<b>Crew Weight</b>
Declared <b>777 kg</b>
Default* <b>777 kg</b>

<b>Special Scoring</b>
ToD ToT
Double Handed <b>577,9 1,0383</b>
Non Spinnaker <b>611,2 0,9817</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>987,7</b>	<b>789,0</b>	<b>684,1</b>	<b>621,7</b>	<b>580,4</b>	<b>552,5</b>	<b>522,2</b>
Circular Random	<b>795,7</b>	<b>640,6</b>	<b>557,0</b>	<b>508,0</b>	<b>477,4</b>	<b>456,9</b>	<b>431,1</b>
Ocean for PCS	<b>851,0</b>	<b>670,3</b>	<b>569,5</b>	<b>507,7</b>	<b>466,7</b>	<b>437,4</b>	<b>396,4</b>
Non Spinnaker	<b>863,4</b>	<b>688,0</b>	<b>591,8</b>	<b>534,4</b>	<b>498,2</b>	<b>474,3</b>	<b>445,2</b>

<b>Sails Limitations</b>		
Genoas <b>4</b>	Jibs <b>3</b>	Spinnakers <b>4</b>
Spinnaker configuration <b>Symmetric</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>44,9°</b>	<b>42,6°</b>	<b>41,0°</b>	<b>39,6°</b>	<b>38,7°</b>	<b>38,0°</b>	<b>37,4°</b>
Beat VMG	<b>3,74</b>	<b>4,57</b>	<b>5,10</b>	<b>5,42</b>	<b>5,63</b>	<b>5,77</b>	<b>5,87</b>
52°	<b>5,82</b>	<b>6,91</b>	<b>7,59</b>	<b>7,90</b>	<b>8,07</b>	<b>8,18</b>	<b>8,27</b>
60°	<b>6,20</b>	<b>7,25</b>	<b>7,91</b>	<b>8,19</b>	<b>8,35</b>	<b>8,46</b>	<b>8,56</b>
75°	<b>6,52</b>	<b>7,51</b>	<b>8,12</b>	<b>8,52</b>	<b>8,77</b>	<b>8,91</b>	<b>9,08</b>
90°	<b>6,53</b>	<b>7,68</b>	<b>8,33</b>	<b>8,64</b>	<b>8,86</b>	<b>9,23</b>	<b>9,56</b>
110°	<b>6,40</b>	<b>7,50</b>	<b>8,17</b>	<b>8,67</b>	<b>9,18</b>	<b>9,51</b>	<b>9,95</b>
120°	<b>6,03</b>	<b>7,17</b>	<b>7,94</b>	<b>8,45</b>	<b>8,96</b>	<b>9,49</b>	<b>10,40</b>
135°	<b>5,13</b>	<b>6,42</b>	<b>7,36</b>	<b>8,01</b>	<b>8,47</b>	<b>8,94</b>	<b>10,01</b>
150°	<b>4,26</b>	<b>5,45</b>	<b>6,47</b>	<b>7,30</b>	<b>7,93</b>	<b>8,39</b>	<b>9,27</b>
Run VMG	<b>3,69</b>	<b>4,72</b>	<b>5,61</b>	<b>6,38</b>	<b>7,09</b>	<b>7,69</b>	<b>8,56</b>
Gybe Angles	<b>141,9°</b>	<b>145,1°</b>	<b>151,0°</b>	<b>158,7°</b>	<b>164,9°</b>	<b>171,0°</b>	<b>174,6°</b>

<b>Storm Sails Areas</b>
Heavy Weather Jib <b>37,54</b>
Storm Jib (JL=10,84) <b>13,90</b>
Storm Trysail <b>15,27</b>

<b>Owner</b>

<b>BOAT</b>	
Name <b>Elan 410 R</b> File <b>SLO410.dxt</b>	Sail Nr <b>SLO 41</b> Data in <b>meters/kilograms</b>

<b>INCLINING TEST AND FREEBOARDS</b>		
Inclining Test <b>Current Inclining</b>		
Flotation date <b>01.03.2008</b>		SG <b>1,0250</b>
FFM <b>1,583</b>	FF <b>1,583</b>	SFFP <b>0,505</b>
FAM <b>1,121</b>	FA <b>1,121</b>	SAFP <b>11,811</b>
W1 <b>110,00</b>	PD1 <b>604,8</b>	WD <b>12,570</b>
W2 <b>110,00</b>	PD2 <b>609,4</b>	GSA <b>1,0</b>
W3 <b>110,00</b>	PD3 <b>608,8</b>	RSA <b>1,0</b>
W4 <b>110,00</b>	PD4 <b>609,0</b>	PLM <b>9000,0</b>
Maximum beam station from stem		<b>8,250</b>
RM Measured / Default		<b>179,1 / 186,0</b>
Limit of positive stability		<b>120,2°</b>
Stability Index		<b>122,3</b>
Freeboard at mast at 4,720		<b>1,348</b>



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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>Yes</b>	Jumpers <b>None</b>		
Taper Hollows <b>No</b>	w/o Backstay <b>No</b>		
P <b>16,160</b>	E <b>5,400</b>	MDT1 <b>0,128</b>	TL <b>0,870</b>
IG <b>16,586</b>	J <b>4,640</b>	MDL1 <b>0,262</b>	MWT <b>177,00</b>
ISP <b>16,636</b>	SFJ <b>0,080</b>	MDT2 <b>0,128</b>	MCG <b>6,122</b>
SPS <b>4,046</b>	SPL <b>4,630</b>	MDL2 <b>0,226</b>	CPW <b>2,505</b>
BAS <b>1,586</b>	TPS <b>0,035</b>	MW <b>0,251</b>	BD <b>0,230</b>
BAL <b>0,152</b>	FSP <b>0,035</b>	GO <b>0,276</b>	BWT

<b>HEAVY ITEMS</b>			
Bow Thruster <b>No</b>	Generator <b>No</b>	Air Condition <b>No</b>	
Windlass <b>No</b>	Jib Furler <b>No</b>	Desalinator <b>No</b>	
Heavy Deck <b>No</b>	Main Furler <b>No</b>		
Headliners <b>No</b>	Water Heater <b>No</b>		
Anchor Weight <b>25,0</b>	Heavy Items Adjustment <b>0,0000</b>		
Anchor LCG <b>4,39</b>	Total Gyradius Adjustment <b>0,0168</b>		

<b>PROPELLER</b>		
Installation <b>Strut Drive</b>	PRD <b>0,443</b>	
Type <b>Folding</b>	PBW	
Twin Screw <b>No</b>	PIPA <b>0,0039</b>	
ST1 <b>0,065</b>	ST3 <b>0,180</b>	ST5 <b>0,280</b>
ST2 <b>0,180</b>	ST4 <b>0,110</b>	EDL <b>3,150</b>

**Certificate**

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VPP Ver. **1.11**  
Valid until **31.12.2009**



JADRALNA ZVEZA SLOVENIJE  
SLOVENIAN SAILING FEDERATION

<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>									
Mainsail	HB	MGT	MGU	MGM	MGL	MSW	Area	Area (r)	Formula
	0,195	1,15	2,01	3,47	4,49	20,00	51,68	51,73	$P/8 \cdot (E + 2 \cdot MGL + 2 \cdot MGM + 1.5 \cdot MGU + MGT + 0.5 \cdot HB)$
Jib/Genoa	JH	JGT	JGU	JGM	JGL	JL	LPG		
	0,06	0,80	1,54	3,07	4,89	16,48	6,34	52,32	$0.1125 \cdot JL \cdot (1.445 \cdot LPG + 2 \cdot JGL + 2 \cdot JGM + 1.5 \cdot JGU + JGT + 0.5 \cdot JH)$
Symmetric	SL	SMG	SF						
	16,39	8,31	8,14					113,04	$SL \cdot (SF + 4 \cdot SMG) / 6$

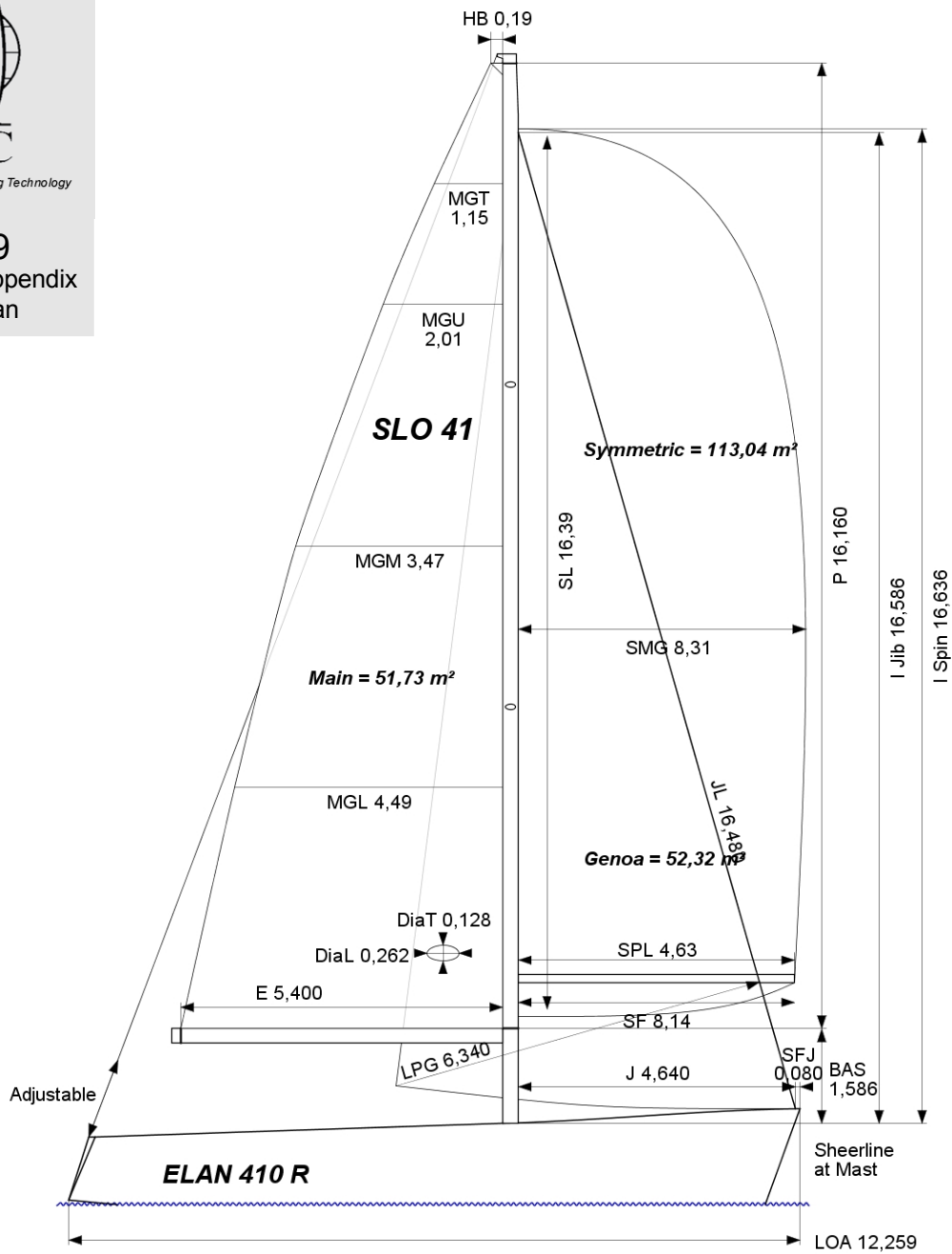
<b>MEASUREMENT INVENTORY</b>			
Measurer <b>Kustic CRO AK</b> Date <b>4.11.2008</b> Comment			
Id	Item	Weight	Distanc Description
1	Anchor	20,0	4,39
1	Chain	5,0	4,39 Rope
1	Tools	4,0	6,70 toolbox
Id	Item	Maker	Model
1	Engine	Volvo	D2 40 HP
Id	Item	Weight	Description
1	Deck Gear	15,0	

<b>MEASUREMENT INVENTORY</b>						
Id	Item	Tank Use	Tank Type	Capct	Dist.	Condt Description
1	Liquid Tank	Water	PVC	155,0	5,00	0,0 Port
2	Liquid Tank	Water	PVC	200,0	5,50	0,0 Starboard
3	Liquid Tank	Fuel	Inox	145,0	10,00	20,0 Starboard
Id	Item	Weight	Distanc Description			
1	Ballast	112,5	4,00 lead pellet 9 pack 12.5 each			
1	Battery	0,0	5,74 67 Ah			
2	Battery	0,0	6,69 85 Ah			



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Sail Plan



**SAILS INVENTORY**

**MAINSAIL**

Id	HB	MGT	MGU	MGM	MGL	MSW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0,195	1,15	2,01	3,47	4,49	20,00	51,68	Gale	05.06.2008	One Victory	Carbon	

**JIBS / GENOAS**

Id	JH	JGT	JGU	JGM	JGL	LPG	JL	Ovrlp	Area	Measurer	Meas.Date	Manufacture	Material	Comment
2	0,06	0,70	1,33	2,58	3,80	4,93	16,39	106%	41,69	Gale	05.06.2009	One Victory	Carbon	No. 3
1	0,06	0,80	1,54	3,07	4,89	6,34	16,48	137%	52,32	Gale	05.06.2009	One Victory	Carbon	No. 1

**SYMMETRIC SPINNAKERS**

Id	SL	SMG	SF	Area	Measurer	Meas.Date	Manufacture	Material	Comment
4	16,39	8,31	8,14	113,04	Gale	05.06.2009	One Victory	Nylon	

**ASYMMETRIC SPINNAKERS**

Id	SLU	SLE	ASL	AMG	ASF	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
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