

<b>BOAT</b> Name <b>Hang Loose</b> Sail Nr <b>SWE 106</b>	<b>GPH</b> <b>603.7</b>	<b>HULL</b> Length Overall <b>10.600m</b> Maximum Beam <b>3.250m</b> Displacement <b>4,487kg</b> Draft <b>2.173m</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>09/2005</b> Age Allowance <b>0.422%</b> Offset File <b>x35.OD - 12/01/2018 22:12:38</b> Measurement by <b>KALL - 04/05/2006</b>		IMSL <b>9.449m</b> VCGD <b>0.053m</b> Sink <b>17.60kg/mm</b> RL <b>9.009m</b> VCGM <b>0.043m</b> WS <b>22.90m<sup>2</sup></b> LSM0 <b>9.270m</b> Displacement/Length ratio <b>5.6327</b>



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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	<b>588.3</b>			<b>655.2</b>		
Time on Time	<b>1.0200</b>			<b>1.0302</b>		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	<b>678.9</b>	<b>538.3</b>	<b>486.0</b>	<b>871.3</b>	<b>657.1</b>	<b>581.0</b>
Time on Time	<b>0.9943</b>	<b>1.2539</b>	<b>1.3888</b>	<b>0.7747</b>	<b>1.0272</b>	<b>1.1617</b>

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>973.1</b>	<b>807.5</b>	<b>727.0</b>	<b>703.5</b>	<b>694.7</b>	<b>684.8</b>	<b>681.1</b>
52°	<b>645.4</b>	<b>546.3</b>	<b>510.9</b>	<b>500.8</b>	<b>496.6</b>	<b>494.0</b>	<b>487.3</b>
60°	<b>614.1</b>	<b>528.9</b>	<b>499.2</b>	<b>488.0</b>	<b>483.2</b>	<b>480.7</b>	<b>471.9</b>
75°	<b>591.3</b>	<b>518.1</b>	<b>489.9</b>	<b>472.6</b>	<b>462.4</b>	<b>456.9</b>	<b>450.2</b>
90°	<b>598.1</b>	<b>518.2</b>	<b>489.6</b>	<b>468.2</b>	<b>449.2</b>	<b>434.8</b>	<b>422.1</b>
110°	<b>608.3</b>	<b>513.4</b>	<b>477.9</b>	<b>452.1</b>	<b>436.0</b>	<b>422.5</b>	<b>403.8</b>
120°	<b>626.0</b>	<b>523.1</b>	<b>483.5</b>	<b>453.7</b>	<b>426.2</b>	<b>406.0</b>	<b>380.4</b>
135°	<b>692.6</b>	<b>564.0</b>	<b>504.9</b>	<b>474.6</b>	<b>446.1</b>	<b>418.4</b>	<b>361.1</b>
150°	<b>820.7</b>	<b>655.5</b>	<b>556.3</b>	<b>504.1</b>	<b>475.8</b>	<b>449.3</b>	<b>398.6</b>
Run VMG	<b>947.7</b>	<b>756.9</b>	<b>641.2</b>	<b>569.6</b>	<b>519.0</b>	<b>487.0</b>	<b>436.8</b>

**Certificate**

Number **106X35**  
ORC Ref **ORC00081060**  
Issued On **05/06/2018**  
VPP Ver. **2018 1.00**  
Valid until **31/12/2018**

**Crew Weight**

Default 618kg  
Maximum **640kg**  
Minimum\* **480kg**  
*\*when applied by the NoR and SI*  
Non Manual Pwr **No**

**Special Scoring**

	ToD	ToT
Double H.GPH	<b>610.6</b>	<b>0.9826</b>
Double H.OSN	<b>597.6</b>	<b>1.0040</b>
Non Spin GPH	<b>633.3</b>	<b>0.9474</b>
Non Spin OSN	<b>616.2</b>	<b>0.9737</b>

Selected Courses							
Windward / Leeward	<b>960.4</b>	<b>782.2</b>	<b>684.1</b>	<b>636.5</b>	<b>606.9</b>	<b>585.9</b>	<b>559.0</b>
Circular Random	<b>819.9</b>	<b>666.7</b>	<b>586.3</b>	<b>540.8</b>	<b>513.0</b>	<b>494.4</b>	<b>469.1</b>
Coastal / Long Distance	<b>959.1</b>	<b>737.0</b>	<b>621.4</b>	<b>560.2</b>	<b>525.2</b>	<b>495.6</b>	<b>449.1</b>
Non Spinnaker	<b>873.2</b>	<b>704.3</b>	<b>614.2</b>	<b>562.3</b>	<b>530.6</b>	<b>509.6</b>	<b>482.3</b>

**Sails Limitations**

Headsails	Spinnakers
<b>5</b>	<b>3</b>

Velocity Prediction in Knots for True Wind Speeds							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat Angles	<b>42.0°</b>	<b>40.9°</b>	<b>39.1°</b>	<b>38.1°</b>	<b>38.1°</b>	<b>37.7°</b>	<b>38.1°</b>
Beat VMG	<b>3.70</b>	<b>4.46</b>	<b>4.95</b>	<b>5.12</b>	<b>5.18</b>	<b>5.26</b>	<b>5.29</b>
52°	<b>5.58</b>	<b>6.59</b>	<b>7.05</b>	<b>7.19</b>	<b>7.25</b>	<b>7.29</b>	<b>7.39</b>
60°	<b>5.86</b>	<b>6.81</b>	<b>7.21</b>	<b>7.38</b>	<b>7.45</b>	<b>7.49</b>	<b>7.63</b>
75°	<b>6.09</b>	<b>6.95</b>	<b>7.35</b>	<b>7.62</b>	<b>7.79</b>	<b>7.88</b>	<b>8.00</b>
90°	<b>6.02</b>	<b>6.95</b>	<b>7.35</b>	<b>7.69</b>	<b>8.01</b>	<b>8.28</b>	<b>8.53</b>
110°	<b>5.92</b>	<b>7.01</b>	<b>7.53</b>	<b>7.96</b>	<b>8.26</b>	<b>8.52</b>	<b>8.92</b>
120°	<b>5.75</b>	<b>6.88</b>	<b>7.45</b>	<b>7.93</b>	<b>8.45</b>	<b>8.87</b>	<b>9.46</b>
135°	<b>5.20</b>	<b>6.38</b>	<b>7.13</b>	<b>7.58</b>	<b>8.07</b>	<b>8.61</b>	<b>9.97</b>
150°	<b>4.39</b>	<b>5.49</b>	<b>6.47</b>	<b>7.14</b>	<b>7.57</b>	<b>8.01</b>	<b>9.03</b>
Run VMG	<b>3.80</b>	<b>4.76</b>	<b>5.61</b>	<b>6.32</b>	<b>6.94</b>	<b>7.39</b>	<b>8.24</b>
Gybe Angles	<b>142.3°</b>	<b>148.4°</b>	<b>151.5°</b>	<b>159.1°</b>	<b>180.0°</b>	<b>180.0°</b>	<b>180.0°</b>

**Class Division Length**

CDL = **9.230**

**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>Hang Loose</b> File <b>SWE106X35</b>	Sail Nr <b>SWE 106</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>1.323</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>5.956 / 6.160</b>	
Maximum beam station from stem		<b>7.300</b>	
RM Measured		<b>111.7kg·m</b>	
RM Default		<b>121.5kg·m</b>	
Limit of positive stability / Stab.Index		<b>116.3° / 117.0</b>	
Freeboard at mast at 4.185		<b>1.108</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>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>156.0</b>
FSP <b>0.068</b>	TPS	TL <b>1.230</b>	MCG <b>4.600</b>




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**IMS Measurement Certificate**

**Certificate**

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VPP Ver. **2018 1.00**  
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<b>MIZZEN RIG AND SAILS</b>	
N/A	

<b>PROPELLER</b>			
Installation <b>Strut</b>	PRD <b>0.420</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>	
O.D. TRIM PLUS TABLE AND CUSHIONS LESS ANCHOR	

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

<b>CENTERBOARD</b>	
N/A	

<b>SAILS (Maximum Areas)</b>									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.210	1.08	1.88	3.19	4.14	41.98	42.84	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL	92.19		SL · (SFL + 4·SHW) / 6	
	14.36	14.36	14.36	7.75	7.52				
Asymmetric	Not Available								

<b>HEADSAILS</b>												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
<b>HHB</b>	<b>HUW</b>	<b>HTW</b>	<b>HHW</b>	<b>HQW</b>	<b>HLP</b>	<b>HLU</b>	<b>Area</b>	<b>Btn</b>	<b>Fly</b>	<b>Meas.Date</b>	<b>Material</b>	<b>Comment</b>
0.10	0.63	1.21	2.29	3.34	4.45	14.60	33.15	N	N	01/03/2007	Kevlar	One Design Rule

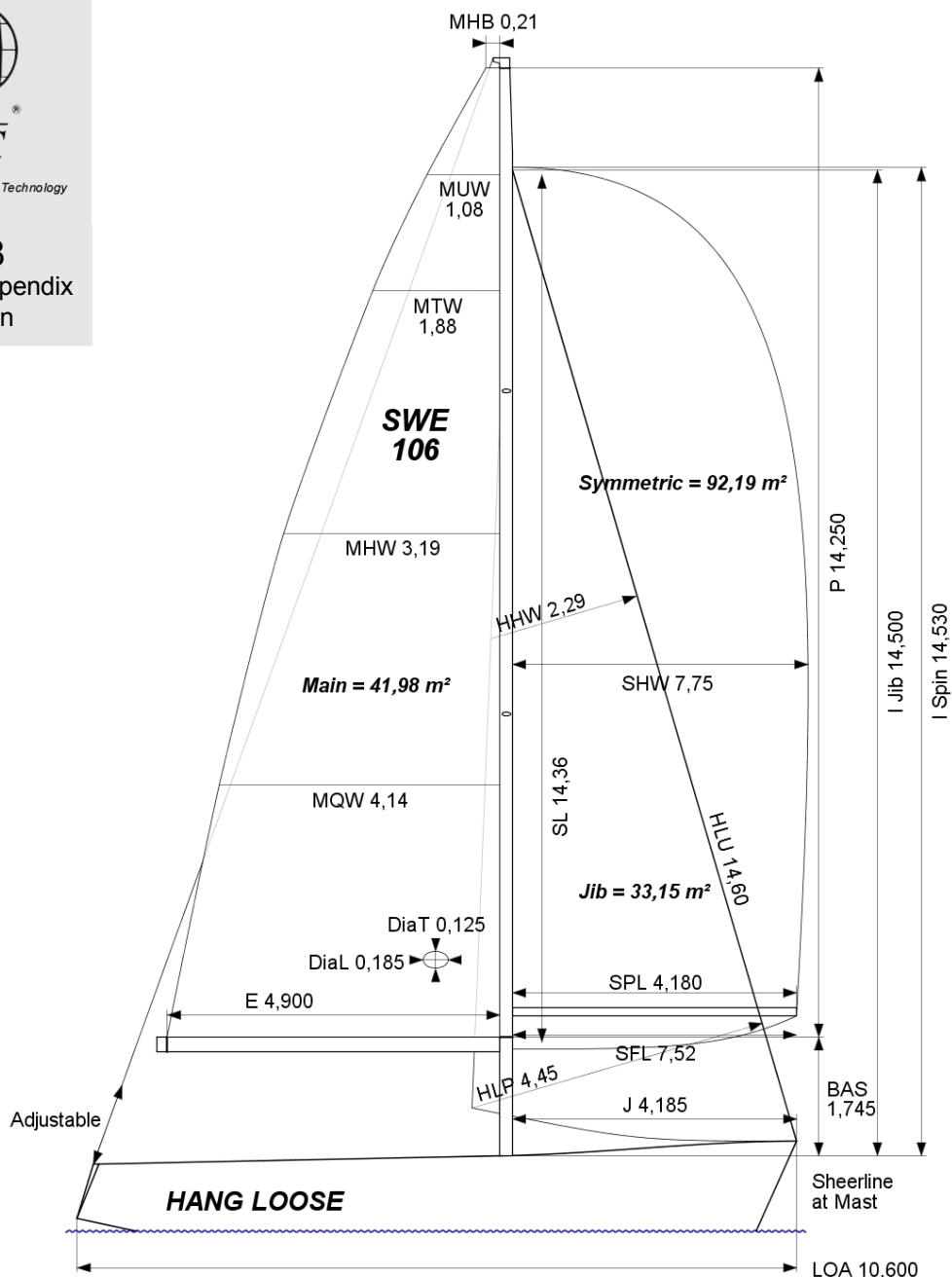
<b>MEASUREMENT INVENTORY</b>				
Measurer <b>Gerd Kall kall</b>				
Date <b>04/05/2006</b>				
Comment				
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
4	Anchor	40.0	6.70	0.00 Anchor 4
4	Chain	8.0	5.50	0.00 Warp
4	Tools	43.0	7.50	0.00
<i>Id</i>	<i>Item</i>	<i>Maker</i>	<i>Model</i>	
1	Engine	Yanmar	3YM20C	
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Description</i>	
4	Deck Gear	9.2 0		

<b>MEASUREMENT INVENTORY</b>							
<i>Id</i>	<i>Item</i>	<i>Tank Use</i>	<i>Tank Type</i>	<i>Capcty</i>	<i>Dist.</i>	<i>VCG</i>	<i>Condtn Description</i>
1	Tank fuel		st.stl	60.0	5.95	0.00	0-0 fuel
2	Tank H2O		pvc	120.0	5.35	0.00	0-0 Water
3	Tank gas		steel	2.0	9.45	0.00	0-0 LPG gas
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG</i>	<i>Description</i>		
Ballast							
1	Battery	46.8	4.65	0.00	120 Ah gel - services		
2	Battery	18.4	5.00	0.00	55 Ah - engine		
1	Misc	20.0	5.00	0.00	Table		
2	Misc	8.0	5.00	0.00	Safety Equipment		



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Certificate Appendix  
Sail Plan



**SAILS INVENTORY**

**MAINSAIL (1)**

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
ORC	0.210	1.08	1.88	3.19	4.14	41.98				Unknown	* Copied from legacy

**HEADSAILS (1)**

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.10	0.63	1.21	2.29	3.34	4.45	14.60	106%	33.15	N	N	X-35	01/03/2007	Any	Kevlar	One Design Rule

**SYMMETRIC SPINNAKERS (1)**

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
ORC	14.36	14.36	14.36	7.75	7.52	92.19				Unknown	* Copied from legacy *

**ASYMMETRIC SPINNAKERS (0)**

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
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