

|                        |
|------------------------|
| <b>BOAT</b>            |
| Name <b>JOANNA</b>     |
| Sail Nr <b>GRE-945</b> |

|              |
|--------------|
| <b>GPH</b>   |
| <b>770.9</b> |

|                    |   |
|--------------------|---|
| <b>HULL</b>        |   |
| Length Overall     | <b>11.000 m</b>   |
| Maximum Beam       | <b>3.537 m</b>  |
| Displacement       | <b>8,784 kg</b>   |
| Draft              | <b>1.757 m</b>  |
| IMS Reg. Division  | <b>Cruiser/Racer</b>                                      |
| Dynamic Allowance  | <b>1.500%</b>   |
| Fwd Accommodation  | <b>Yes</b>  |
| Hull Construction  | <b>Solid</b>  |
| Carbon Rudder      | <b>No</b>   |
| Crew Arm Extension |   |
| IMS L              | <b>9.129</b> VCGD <b>-0.106</b> VCGM <b>0.014</b>         |
| Sink               | <b>19.46 kg/mm</b> Wetted Area <b>28.89 m<sup>2</sup></b> |



World Leader in Rating Technology

**2009**  
ORC International  
Certificate

|   |
|---|
| <b>GENERAL</b>                                    |
| Class <b>HALLBERG RASSY 36</b>                    |
| Designer <b>FRERS</b>                             |
| Builder <b>HALLBERG RASSY</b>                     |
| Series <b>05/1990</b>                             |
| Age <b>01/1996</b>                                |
| Age Allowance <b>1.235%</b>                       |
| Offset File <b>S9001.BOF - 28/8/2012 10:32:52</b> |
| Measurement by <b>KALATZIS - 19/04/2008</b>       |

| <b>SCORING OPTIONS</b> |   |               |               |                                       |               |               |
|------------------------|---|---------------|---------------|---------------------------------------|---------------|---------------|
|                        | <b>OFFSHORE<br/>COASTAL / LONG DISTANCE</b> |               |               | <b>INSHORE<br/>WINDWARD / LEEWARD</b> |               |               |
| Time On Distance       | <b>770.9</b>                                |               |               | <b>862.8</b>                          |               |               |
| Time On Time           | <b>0.7783</b>                               |               |               | <b>0.7824</b>                         |               |               |
| Performance Line       | PLT   | PLD           |               | PLT                                   | PLD           |               |
|                        | <b>0.618</b>                                | <b>51.4</b>   |               | <b>0.649</b>                          | <b>157.3</b>  |               |
| Triple Number          | Low   | Medium        | High          | Low                                   | Medium        | High          |
|                        | <b>0.7273</b>                               | <b>1.0061</b> | <b>1.1637</b> | <b>0.5569</b>                         | <b>0.8094</b> | <b>0.9781</b> |

**Rating Office**

Offshore  
Racing  
Congress



World Leader in Rating Technology

| <b>TIME ALLOWANCES</b> |               |               |              |              |              |              |              |
|------------------------|---------------|---------------|--------------|--------------|--------------|--------------|--------------|
| Wind Velocity          | 6 kt          | 8 kt          | 10 kt        | 12 kt        | 14 kt        | 16 kt        | 20 kt        |
| Beat VMG               | <b>1359.8</b> | <b>1099.9</b> | <b>950.2</b> | <b>872.0</b> | <b>834.3</b> | <b>811.1</b> | <b>790.0</b> |
| 52°                    | <b>852.7</b>  | <b>696.5</b>  | <b>613.3</b> | <b>581.6</b> | <b>563.3</b> | <b>552.7</b> | <b>541.1</b> |
| 60°                    | <b>782.1</b>  | <b>636.0</b>  | <b>585.5</b> | <b>558.6</b> | <b>539.8</b> | <b>527.6</b> | <b>517.1</b> |
| 75°                    | <b>727.7</b>  | <b>601.9</b>  | <b>563.4</b> | <b>538.8</b> | <b>519.7</b> | <b>506.2</b> | <b>490.6</b> |
| 90°                    | <b>738.0</b>  | <b>606.8</b>  | <b>566.6</b> | <b>541.8</b> | <b>522.2</b> | <b>507.3</b> | <b>485.8</b> |
| 110°                   | <b>863.5</b>  | <b>691.4</b>  | <b>595.3</b> | <b>559.6</b> | <b>534.3</b> | <b>514.2</b> | <b>487.2</b> |
| 120°                   | <b>930.1</b>  | <b>732.5</b>  | <b>615.7</b> | <b>571.1</b> | <b>543.6</b> | <b>521.5</b> | <b>491.9</b> |
| 135°                   | <b>1063.9</b> | <b>817.5</b>  | <b>683.9</b> | <b>598.9</b> | <b>563.3</b> | <b>538.0</b> | <b>502.0</b> |
| 150°                   | <b>1209.3</b> | <b>925.5</b>  | <b>759.9</b> | <b>652.0</b> | <b>589.7</b> | <b>558.3</b> | <b>515.2</b> |
| Run VMG                | <b>1352.8</b> | <b>1035.4</b> | <b>837.5</b> | <b>715.7</b> | <b>625.2</b> | <b>579.0</b> | <b>527.4</b> |

|                             |
|-----------------------------|
| <b>Certificate</b>          |
| Number <b>9i463a</b>        |
| ORC Ref <b>GRE00000835</b>  |
| Issued On <b>19/5/2009</b>  |
| VPP Ver. <b>1.11</b>        |
| Valid until <b>1/3/2010</b> |

| <b>Selected Courses</b> |               |               |              |              |              |              |              |
|-------------------------|---------------|---------------|--------------|--------------|--------------|--------------|--------------|
| Windward / Leeward      | <b>1377.6</b> | <b>1080.5</b> | <b>907.9</b> | <b>804.2</b> | <b>740.4</b> | <b>703.7</b> | <b>663.2</b> |
| Circular Random         | <b>1102.4</b> | <b>871.9</b>  | <b>745.1</b> | <b>670.0</b> | <b>623.6</b> | <b>594.0</b> | <b>559.4</b> |
| Ocean for PCS           | <b>1173.2</b> | <b>909.2</b>  | <b>760.1</b> | <b>668.7</b> | <b>609.6</b> | <b>569.1</b> | <b>515.6</b> |
| Non Spinnaker           | <b>1115.7</b> | <b>881.6</b>  | <b>752.4</b> | <b>675.6</b> | <b>628.0</b> | <b>597.6</b> | <b>561.9</b> |

|                            |
|----------------------------|
| <b>Crew Weight</b>         |
| Declared <b>350 kg</b>     |
| Default* <b>649 kg</b>     |
| Non Manual Power <b>No</b> |

|                                   |
|-----------------------------------|
| <b>Special Scoring</b>            |
| ToD ToT                           |
| D. Hand OSN <b>771.2 0.7780</b>   |
| Non Spin. OSN <b>778.6 0.7706</b> |
| N/S Perf. Line                    |

| <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>47.0°</b>  | <b>45.3°</b>  | <b>46.3°</b>  | <b>43.4°</b>  | <b>41.7°</b>  | <b>40.6°</b>  | <b>40.0°</b>  |
| Beat VMG   | <b>2.65</b>   | <b>3.27</b>   | <b>3.79</b>   | <b>4.13</b>   | <b>4.31</b>   | <b>4.44</b>   | <b>4.56</b>   |
| 52°  | <b>4.22</b>   | <b>5.17</b>   | <b>5.87</b>   | <b>6.19</b>   | <b>6.39</b>   | <b>6.51</b>   | <b>6.65</b>   |
| 60°  | <b>4.60</b>   | <b>5.66</b>   | <b>6.15</b>   | <b>6.44</b>   | <b>6.67</b>   | <b>6.82</b>   | <b>6.96</b>   |
| 75°  | <b>4.95</b>   | <b>5.98</b>   | <b>6.39</b>   | <b>6.68</b>   | <b>6.93</b>   | <b>7.11</b>   | <b>7.34</b>   |
| 90°  | <b>4.88</b>   | <b>5.93</b>   | <b>6.35</b>   | <b>6.64</b>   | <b>6.89</b>   | <b>7.10</b>   | <b>7.41</b>   |
| 110°   | <b>4.17</b>   | <b>5.21</b>   | <b>6.05</b>   | <b>6.43</b>   | <b>6.74</b>   | <b>7.00</b>   | <b>7.39</b>   |
| 120°   | <b>3.87</b>   | <b>4.91</b>   | <b>5.85</b>   | <b>6.30</b>   | <b>6.62</b>   | <b>6.90</b>   | <b>7.32</b>   |
| 135°   | <b>3.38</b>   | <b>4.40</b>   | <b>5.26</b>   | <b>6.01</b>   | <b>6.39</b>   | <b>6.69</b>   | <b>7.17</b>   |
| 150°   | <b>2.98</b>   | <b>3.89</b>   | <b>4.74</b>   | <b>5.52</b>   | <b>6.10</b>   | <b>6.45</b>   | <b>6.99</b>   |
| Run VMG  | <b>2.66</b>   | <b>3.48</b>   | <b>4.30</b>   | <b>5.03</b>   | <b>5.76</b>   | <b>6.22</b>   | <b>6.83</b>   |
| Gybe Angles  | <b>179.0°</b> | <b>179.1°</b> | <b>179.3°</b> | <b>179.4°</b> | <b>179.5°</b> | <b>179.8°</b> | <b>179.9°</b> |

|   |
|---|
| <b>Sails Limitations</b>                              |
| Genoas <b>2</b>   Jibs <b>2</b>   Spinnakers <b>0</b> |
| Spinnaker configuration<br><b>No Spinnaker</b>        |

|                                 |
|---------------------------------|
| <b>Storm Sails Areas</b>        |
| Heavy Weather Jib <b>22.80</b>  |
| Storm Jib (JL=8.45) <b>8.44</b> |
| Storm Trysail <b>10.52</b>      |

|              |
|--------------|
| <b>Owner</b> |
|              |

|                       |                                 |
|-----------------------|---------------------------------|
| <b>BOAT</b>           |                                 |
| Name <b>JOANNA</b>    | Sail Nr <b>GRE-945</b>          |
| File <b>GR945.dxt</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>Yes</b>      |
| Fiber Rigging <b>No</b>        | Main Furler <b>Yes</b>     |
| Lenticular Rigging <b>No</b>   | Without Backstay <b>No</b> |
| Articulated Bowsprit <b>No</b> |                            |
| P <b>12.650</b>                | E <b>4.750</b>             |
| IG <b>12.770</b>               | J <b>4.044</b>             |
| ISP                            | SFJ <b>-0.005</b>          |
| SPS                            | SPL                        |
| BAS <b>1.753</b>               | TPS                        |
| BAL <b>0.000</b>               | FSP <b>0.008</b>           |
| MDT1 <b>0.124</b>              | TL                         |
| MDL1 <b>0.233</b>              | MWT                        |
| MDT2 <b>0.124</b>              | MCG                        |
| MDL2 <b>0.233</b>              | CPW <b>2.494</b>           |
| MW <b>0.233</b>                | BD <b>0.173</b>            |
| GO <b>0.303</b>                | BWT                        |

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

|  |  |
|--|--|
| <b>COMMENTS</b>  |  |
| Freeboards raised 14,73mm due to fuel tanks full 345 Ltr |  |

|   |                  |                      |  |
|---|------------------|----------------------|--|
| <b>INCLINING TEST AND FREEBOARDS</b>    |                  |                      |  |
| Inclining Test <b>Current Inclining</b> |                  |                      |  |
| Flotation date <b>12/04/2008</b>        |                  | SG <b>1.0270</b>     |  |
| FFM <b>1.258</b>                        | FF <b>1.257</b>  | SFFP <b>0.977</b>    |  |
| FAM <b>1.026</b>                        | FA <b>1.025</b>  | SAFP <b>10.412</b>   |  |
| W1 <b>87.500</b>                        | PD1 <b>254.0</b> | WD <b>10.500</b>     |  |
| W2 <b>87.500</b>                        | PD2 <b>254.0</b> | GSA <b>41.9</b>      |  |
| W3 <b>87.500</b>                        | PD3 <b>254.0</b> | RSA <b>6082.1</b>    |  |
| W4 <b>87.500</b>                        | PD4 <b>254.0</b> | PLM <b>2110.0</b>    |  |
| Max. beam station / LCF from stem       |                  | <b>6.201 / 6.014</b> |  |
| RM Measured / Default                   |                  | <b>132.6 / 121.8</b> |  |
| Limit of positive stability             |                  | <b>117.4°</b>        |  |
| Stability Index                         |                  | <b>124.6</b>         |  |
| Freeboard at mast at 0.000              |                  | <b>1.090</b>         |  |

|                                 |                    |     |     |
|---------------------------------|--------------------|-----|-----|
| <b>PROPELLER</b>                |                    |     |     |
| Installation <b>Shaft</b>       | PRD <b>0.213</b>   |     |     |
| Type <b>Feathering 3 blades</b> | PBW <b>0.150</b>   |     |     |
| Twin Screw <b>No</b>            | PIPA <b>0.0000</b> |     |     |
| PSA                             | PHL <b>0.130</b>   | ST3 | ESL |
| PSD                             | ST1                | ST4 |     |
| PHD <b>0.076</b>                | ST2                | ST5 |     |

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

|                    |  |
|--------------------|--|
| <b>CENTERBOARD</b> |  |
| N/A                |  |



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**2009**  
IMS Measurement  
Certificate

|                             |  |
|-----------------------------|--|
| <b>Certificate</b>          |  |
| Number <b>9i463a</b>        |  |
| ORC Ref <b>GRE00000835</b>  |  |
| Issued On <b>19/5/2009</b>  |  |
| VPP Ver. <b>1.11</b>        |  |
| Valid until <b>1/3/2010</b> |  |



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|                                    |           |            |            |            |            |            |             |                 |  |  |
|------------------------------------|-----------|------------|------------|------------|------------|------------|-------------|-----------------|--|--|
| <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>Area (r)</b> | <b>Formula</b>                                       |  |
|                                    | 0.036     | 0.54       | 1.10       | 2.25       | 3.46       | 14.20      |             | 29.13           | 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>  |                 |  |  |
|                                    | 0.00      | 0.66       | 1.32       | 2.65       | 3.97       | 13.30      | 5.29        | 35.18           | 0.1125·JL·(1.445·LPG+2·JGL+2·JGM+1.5·JGU+JGT+0.5·JH) |  |
| <b>Symmetric</b><br>Not Available  |           |            |            |            |            |            |             |                 |  |  |
| <b>Asymmetric</b><br>Not Available |           |            |            |            |            |            |             |                 |  |  |
| <b>Code Zero</b><br>Not Available  |           |            |            |            |            |            |             |                 |  |  |

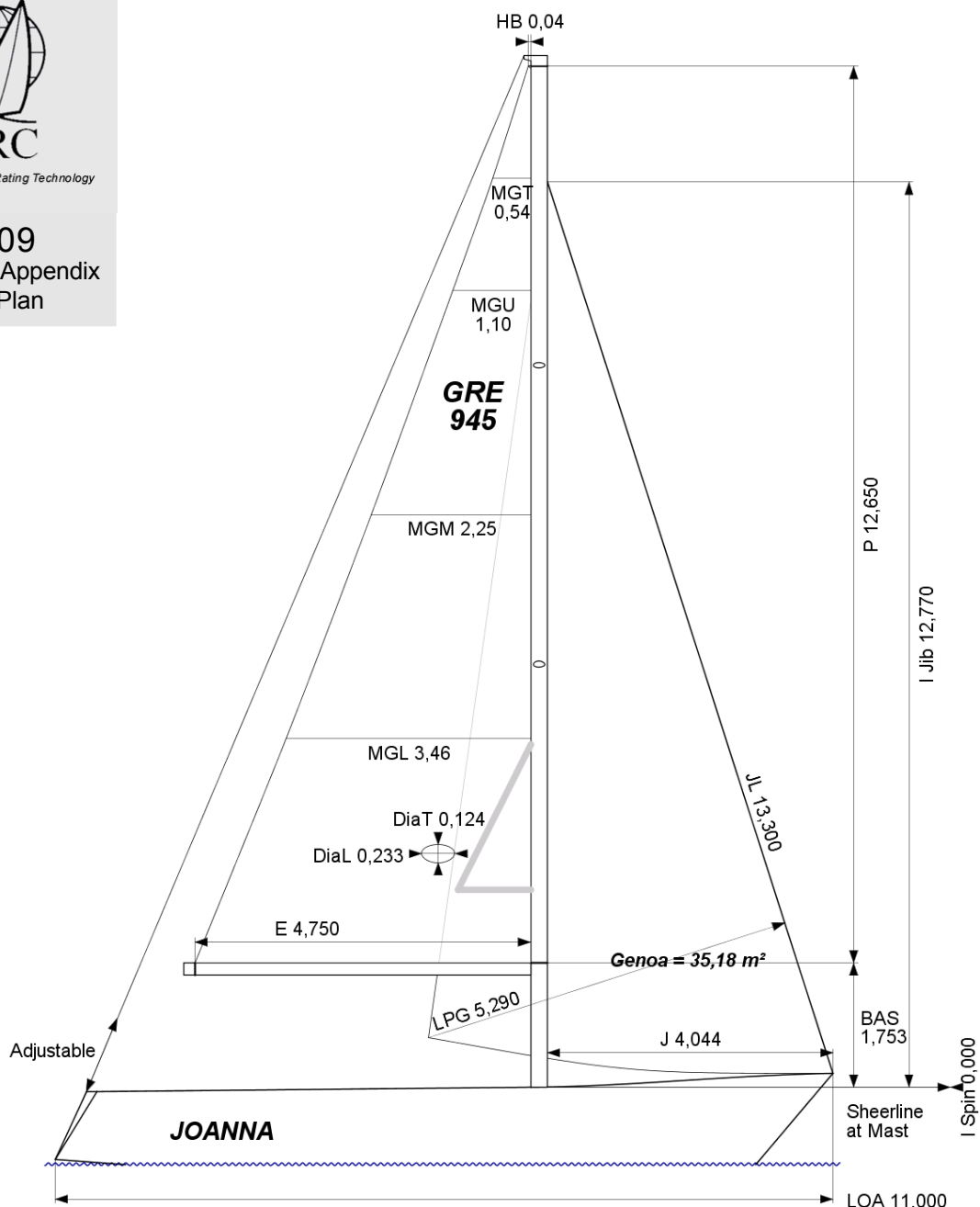
|                              |             |               |                 |            |                    |
|------------------------------|-------------|---------------|-----------------|------------|--------------------|
| <b>MEASUREMENT INVENTORY</b> |             |               |                 |            |                    |
| Measurer                     |             |               |                 |            |                    |
| Date                         |             |               |                 |            |                    |
| Comment                      |             |               |                 |            |                    |
| <b>Id</b>                    | <b>Item</b> | <b>Weight</b> | <b>Distance</b> | <b>VCG</b> | <b>Description</b> |
| OR                           | Anchor      | 150.0         | 0.90            |            | *Legacy Anchor*    |
| <b>Id</b>                    | <b>Item</b> | <b>Weight</b> |                 |            | <b>Description</b> |

|                              |             |               |                 |            |                    |
|------------------------------|-------------|---------------|-----------------|------------|--------------------|
| <b>MEASUREMENT INVENTORY</b> |             |               |                 |            |                    |
| <b>Id</b>                    | <b>Item</b> | <b>Weight</b> | <b>Distance</b> | <b>VCG</b> | <b>Description</b> |



World Leader in Rating Technology

2009  
Certificate Appendix  
Sail Plan



**SAILS INVENTORY**

| MAINSAIL              |       |      |      |      |          |           |             |          |            |             |           |             |          |               |
|-----------------------|-------|------|------|------|----------|-----------|-------------|----------|------------|-------------|-----------|-------------|----------|---------------|
| Id                    | HB    | MGT  | MGU  | MGM  | MGL      | MSW       | Area        | Measurer | Meas.Date  | Manufacture | Material  | Comment     |          |               |
| 1                     | 0.036 | 0.54 | 1.10 | 2.25 | 3.46     | 14.20     | 29.06       | KALATZIS | 11/09/2008 | ELVSTROM    | Dacron    |             |          |               |
| JIBS / GENOAS         |       |      |      |      |          |           |             |          |            |             |           |             |          |               |
| Id                    | JH    | JGT  | JGU  | JGM  | JGL      | LPG       | JL          | Ovrlp    | Area       | Measurer    | Meas.Date | Manufacture | Material | Comment       |
| ORC                   |       |      |      |      |          | 5.29      | 13.30       | 131%     | 35.18      |             |           |             |          | * Copied from |
| SYMMETRIC SPINNAKERS  |       |      |      |      |          |           |             |          |            |             |           |             |          |               |
| Id                    | SL    | SMG  | SF   | Area | Measurer | Meas.Date | Manufacture | Material | Comment    |             |           |             |          |               |
|                       |       |      |      |      |          |           |             |          |            |             |           |             |          |               |
| ASYMMETRIC SPINNAKERS |       |      |      |      |          |           |             |          |            |             |           |             |          |               |
| Id                    | SLU   | SLE  | ASL  | AMG  | ASF      | Area      | Kind        | Measurer | Meas.Date  | Manufacture | Material  | Comment     |          |               |
|                       |       |      |      |      |          |           |             |          |            |             |           |             |          |               |