

|                                                                                                                                                                                                                                                                              |                                |                            |                                                                                                                                                                                                                                                                                                                                      |                           |               |               |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------|---------------|---------------|
| <b>BOAT</b><br>Name <b>J 70</b><br>Sail Nr <b>J70-</b>                                                                                                                                                                                                                       |                                | <b>GPH</b><br><b>673.3</b> | <b>HULL</b><br>Length Overall <b>6.910m</b><br>Maximum Beam <b>2.254m</b><br>Displacement <b>811kg</b><br>Draft <b>1.382m</b><br>IMS Reg. Division <b>Sportboat</b><br>Dynamic Allowance <b>0.148%</b><br>Fwd Accommodation <b>No</b><br>Hull Construction <b>Cored</b><br>Carbon Rudder <b>No</b><br>Crew Arm Extension <b>0.50</b> |                           |               |               |               |
| <b>GENERAL</b><br>Class <b>J-70 ONE DESIGN</b><br>Designer <b>JOHNSTONE</b><br>Builder <b>J BOATS</b><br>Series <b>02/2012</b><br>Age <b>02/2013</b><br>Age Allowance <b>0.228%</b><br>Offset File <b>J70.od - 11/04/2019 22:13:33</b><br>Measurement by - <b>01/02/2013</b> |                                |                            | IMSL <b>6.700m</b> VCGD <b>-0.184m</b> Sink <b>7.58kg/mm</b><br>RL <b>7.058m</b> VCGM <b>-0.194m</b> WS <b>9.18m<sup>2</sup></b><br>LSMO <b>6.181m</b> Displacement/Length ratio <b>3.4344</b>                                                                                                                                       |                           |               |               |               |
| <b>SCORING OPTIONS</b>                                                                                                                                                                                                                                                       |                                |                            |                                                                                                                                                                                                                                                                                                                                      |                           |               |               |               |
|                                                                                                                                                                                                                                                                              | <b>COASTAL / LONG DISTANCE</b> |                            |                                                                                                                                                                                                                                                                                                                                      | <b>WINDWARD / LEEWARD</b> |               |               |               |
| Time on Distance                                                                                                                                                                                                                                                             | <b>652.5</b>                   |                            |                                                                                                                                                                                                                                                                                                                                      | <b>741.6</b>              |               |               |               |
| Time on Time                                                                                                                                                                                                                                                                 | <b>0.9195</b>                  |                            |                                                                                                                                                                                                                                                                                                                                      | <b>0.9102</b>             |               |               |               |
| Triple Number                                                                                                                                                                                                                                                                | Low                            | Medium                     | High                                                                                                                                                                                                                                                                                                                                 | Low                       | Medium        | High          |               |
| Time on Distance                                                                                                                                                                                                                                                             | <b>773.5</b>                   | <b>599.7</b>               | <b>510.7</b>                                                                                                                                                                                                                                                                                                                         | <b>996.3</b>              | <b>747.4</b>  | <b>637.6</b>  |               |
| Time on Time                                                                                                                                                                                                                                                                 | <b>0.8727</b>                  | <b>1.1255</b>              | <b>1.3216</b>                                                                                                                                                                                                                                                                                                                        | <b>0.6775</b>             | <b>0.9031</b> | <b>1.0586</b> |               |
| <b>TIME ALLOWANCES</b>                                                                                                                                                                                                                                                       |                                |                            |                                                                                                                                                                                                                                                                                                                                      |                           |               |               |               |
| Wind Velocity                                                                                                                                                                                                                                                                | 6 kt                           | 8 kt                       | 10 kt                                                                                                                                                                                                                                                                                                                                | 12 kt                     | 14 kt         | 16 kt         | 20 kt         |
| Beat VMG                                                                                                                                                                                                                                                                     | <b>1188.1</b>                  | <b>973.2</b>               | <b>856.7</b>                                                                                                                                                                                                                                                                                                                         | <b>794.8</b>              | <b>775.6</b>  | <b>772.4</b>  | <b>777.3</b>  |
| 52°                                                                                                                                                                                                                                                                          | <b>780.3</b>                   | <b>650.2</b>               | <b>599.6</b>                                                                                                                                                                                                                                                                                                                         | <b>570.5</b>              | <b>552.6</b>  | <b>546.3</b>  | <b>542.5</b>  |
| 60°                                                                                                                                                                                                                                                                          | <b>737.6</b>                   | <b>626.7</b>               | <b>583.1</b>                                                                                                                                                                                                                                                                                                                         | <b>551.5</b>              | <b>525.6</b>  | <b>516.0</b>  | <b>512.0</b>  |
| 75°                                                                                                                                                                                                                                                                          | <b>699.5</b>                   | <b>605.2</b>               | <b>567.4</b>                                                                                                                                                                                                                                                                                                                         | <b>531.3</b>              | <b>494.4</b>  | <b>469.1</b>  | <b>454.6</b>  |
| 90°                                                                                                                                                                                                                                                                          | <b>659.8</b>                   | <b>578.4</b>               | <b>532.8</b>                                                                                                                                                                                                                                                                                                                         | <b>510.0</b>              | <b>484.8</b>  | <b>449.3</b>  | <b>399.3</b>  |
| 110°                                                                                                                                                                                                                                                                         | <b>651.1</b>                   | <b>569.9</b>               | <b>511.0</b>                                                                                                                                                                                                                                                                                                                         | <b>460.1</b>              | <b>430.7</b>  | <b>411.2</b>  | <b>364.2</b>  |
| 120°                                                                                                                                                                                                                                                                         | <b>671.9</b>                   | <b>579.9</b>               | <b>522.2</b>                                                                                                                                                                                                                                                                                                                         | <b>463.5</b>              | <b>410.5</b>  | <b>380.6</b>  | <b>332.6</b>  |
| 135°                                                                                                                                                                                                                                                                         | <b>748.7</b>                   | <b>615.0</b>               | <b>557.2</b>                                                                                                                                                                                                                                                                                                                         | <b>504.2</b>              | <b>449.5</b>  | <b>398.6</b>  | <b>285.3</b>  |
| 150°                                                                                                                                                                                                                                                                         | <b>880.8</b>                   | <b>698.8</b>               | <b>610.0</b>                                                                                                                                                                                                                                                                                                                         | <b>564.8</b>              | <b>519.4</b>  | <b>467.7</b>  | <b>341.3</b>  |
| Run VMG                                                                                                                                                                                                                                                                      | <b>1017.0</b>                  | <b>806.8</b>               | <b>704.3</b>                                                                                                                                                                                                                                                                                                                         | <b>652.1</b>              | <b>599.8</b>  | <b>540.1</b>  | <b>394.1</b>  |
| <b>Selected Courses</b>                                                                                                                                                                                                                                                      |                                |                            |                                                                                                                                                                                                                                                                                                                                      |                           |               |               |               |
| Windward / Leeward                                                                                                                                                                                                                                                           | <b>1102.5</b>                  | <b>890.0</b>               | <b>780.5</b>                                                                                                                                                                                                                                                                                                                         | <b>723.5</b>              | <b>687.7</b>  | <b>656.3</b>  | <b>585.7</b>  |
| Circular Random                                                                                                                                                                                                                                                              | <b>929.8</b>                   | <b>751.6</b>               | <b>654.5</b>                                                                                                                                                                                                                                                                                                                         | <b>595.1</b>              | <b>554.4</b>  | <b>522.9</b>  | <b>471.9</b>  |
| Coastal / Long Distance                                                                                                                                                                                                                                                      | <b>1094.0</b>                  | <b>836.2</b>               | <b>705.0</b>                                                                                                                                                                                                                                                                                                                         | <b>624.2</b>              | <b>571.2</b>  | <b>525.4</b>  | <b>442.3</b>  |
| Non Spinnaker                                                                                                                                                                                                                                                                | <b>1023.6</b>                  | <b>817.8</b>               | <b>705.0</b>                                                                                                                                                                                                                                                                                                                         | <b>637.2</b>              | <b>593.2</b>  | <b>562.2</b>  | <b>518.3</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>42.7°</b>                   | <b>41.8°</b>               | <b>39.7°</b>                                                                                                                                                                                                                                                                                                                         | <b>37.6°</b>              | <b>36.8°</b>  | <b>36.8°</b>  | <b>38.1°</b>  |
| Beat VMG                                                                                                                                                                                                                                                                     | <b>3.03</b>                    | <b>3.70</b>                | <b>4.20</b>                                                                                                                                                                                                                                                                                                                          | <b>4.53</b>               | <b>4.64</b>   | <b>4.66</b>   | <b>4.63</b>   |
| 52°                                                                                                                                                                                                                                                                          | <b>4.61</b>                    | <b>5.54</b>                | <b>6.00</b>                                                                                                                                                                                                                                                                                                                          | <b>6.31</b>               | <b>6.51</b>   | <b>6.59</b>   | <b>6.64</b>   |
| 60°                                                                                                                                                                                                                                                                          | <b>4.88</b>                    | <b>5.74</b>                | <b>6.17</b>                                                                                                                                                                                                                                                                                                                          | <b>6.53</b>               | <b>6.85</b>   | <b>6.98</b>   | <b>7.03</b>   |
| 75°                                                                                                                                                                                                                                                                          | <b>5.15</b>                    | <b>5.95</b>                | <b>6.34</b>                                                                                                                                                                                                                                                                                                                          | <b>6.78</b>               | <b>7.28</b>   | <b>7.67</b>   | <b>7.92</b>   |
| 90°                                                                                                                                                                                                                                                                          | <b>5.46</b>                    | <b>6.22</b>                | <b>6.76</b>                                                                                                                                                                                                                                                                                                                          | <b>7.06</b>               | <b>7.43</b>   | <b>8.01</b>   | <b>9.01</b>   |
| 110°                                                                                                                                                                                                                                                                         | <b>5.53</b>                    | <b>6.32</b>                | <b>7.04</b>                                                                                                                                                                                                                                                                                                                          | <b>7.82</b>               | <b>8.36</b>   | <b>8.76</b>   | <b>9.89</b>   |
| 120°                                                                                                                                                                                                                                                                         | <b>5.36</b>                    | <b>6.21</b>                | <b>6.89</b>                                                                                                                                                                                                                                                                                                                          | <b>7.77</b>               | <b>8.77</b>   | <b>9.46</b>   | <b>10.82</b>  |
| 135°                                                                                                                                                                                                                                                                         | <b>4.81</b>                    | <b>5.85</b>                | <b>6.46</b>                                                                                                                                                                                                                                                                                                                          | <b>7.14</b>               | <b>8.01</b>   | <b>9.03</b>   | <b>12.62</b>  |
| 150°                                                                                                                                                                                                                                                                         | <b>4.09</b>                    | <b>5.15</b>                | <b>5.90</b>                                                                                                                                                                                                                                                                                                                          | <b>6.37</b>               | <b>6.93</b>   | <b>7.70</b>   | <b>10.55</b>  |
| Run VMG                                                                                                                                                                                                                                                                      | <b>3.54</b>                    | <b>4.46</b>                | <b>5.11</b>                                                                                                                                                                                                                                                                                                                          | <b>5.52</b>               | <b>6.00</b>   | <b>6.67</b>   | <b>9.13</b>   |
| Gybe Angles                                                                                                                                                                                                                                                                  | <b>145.3°</b>                  | <b>147.8°</b>              | <b>150.1°</b>                                                                                                                                                                                                                                                                                                                        | <b>148.6°</b>             | <b>145.4°</b> | <b>143.5°</b> | <b>137.2°</b> |



**ORC**  
Offshore Racing Congress  
World leader in rating technology

**2019 (Test)**  
ORC International  
One Design Certificate

**Rating Office**

**Certificate**  
Number **J701**  
ORC Ref **N/A**  
Issued On **11/04/2019**  
VPP Ver. **2019 1.01**  
**Invalid for Racing**

**Crew Weight**  
Default 347kg  
Maximum **340kg**  
Minimum\* **255kg**  
\*when applied by the NoR and SI  
Non Manual Pwr **No**

**Special Scoring**

|              | ToD          | ToT           |
|--------------|--------------|---------------|
| Double H.GPH | <b>692.2</b> | <b>0.8668</b> |
| Double H.OSN | <b>675.6</b> | <b>0.8881</b> |
| Non Spin GPH | <b>727.5</b> | <b>0.8247</b> |
| Non Spin OSN | <b>699.4</b> | <b>0.8579</b> |

**Sails Limitations**

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

**Dacron Sails**

**Class Division Length**  
CDL = **6.880**

**Storm Sails Areas**

|                     |             |
|---------------------|-------------|
| Heavy Weather Jib   | <b>8.79</b> |
| Storm Jib (JL=5.25) | <b>3.26</b> |
| Storm Trysail       | <b>4.02</b> |

**Owner**

I certify that I understand my responsibilities under ORC Rules and Regulations

Signature

| BOAT |      | Sail Nr |      | J70- |  | Data in |  | meters/kilograms |  |
|------|------|---------|------|------|--|---------|--|------------------|--|
| Name | J 70 | Sail Nr | J70- |      |  |         |  |                  |  |
| File | j70  |         |      |      |  |         |  |                  |  |

| RIG                  |             |
|----------------------|-------------|
| Forestay Tension     | Aft         |
| Inner Stay           | None Fitted |
| Carbon Mast          | Yes         |
| Taper Hollows        | No          |
| Fiber Rigging        | No          |
| Lenticular Rigging   | No          |
| Articulated Bowsprit | No          |
| Spreaders            | 1           |
| Runners              | 0           |
| Jumper Struts        | None        |
| Jib Furler           | Yes         |
| Main Furler          | No          |
| Without Backstay     | No          |

| P     |       | E     |       | MDT1  |       | MW    |       |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 7.974 | 2.876 | 0.080 | 0.116 | 0.116 | 0.136 | 0.095 | 24.00 |
| IG    | 8.000 | J     | 2.340 | MDL1  | 0.070 | BD    | 0.095 |
| ISP   | 9.290 | SFJ   | 0.160 | MDT2  | 0.070 | MWT   | 24.00 |
| BAS   | 0.992 | SPL   | 3.995 | MDL2  | 1.000 | MCG   | 3.880 |
| FSP   | 0.060 | TPS   |       | TL    |       |       |       |

| INCLINING TEST AND FREEBOARDS            |                   |
|------------------------------------------|-------------------|
| Inclining Test                           | Enter RM directly |
| Flotation date                           | 01/02/2016        |
| SG                                       | 1.0200            |
| RM Ce                                    | 21.6              |
| FFM                                      | 0.790             |
| FF                                       | 0.792             |
| SFFP                                     | 0.155             |
| FAM                                      | 0.570             |
| FA                                       | 0.571             |
| SAFP                                     | 6.903             |
| LCF from stem on CL / on sheer           | 3.697 / 3.856     |
| Maximum beam station from stem           | 4.358             |
| RM Measured                              | 21.6kg·m          |
| RM Default                               | 19.9kg·m          |
| Limit of positive stability / Stab.Index | 112.3° / 103.6    |
| Freeboard at mast at 2.500               | 0.674             |

| MIZZEN RIG AND SAILS |  |
|----------------------|--|
| N/A                  |  |

| PROPELLER |              |
|-----------|--------------|
| Type      | No Propeller |

| MOVABLE BALLAST |  |
|-----------------|--|
| N/A             |  |

| CENTERBOARD |  |
|-------------|--|
| N/A         |  |

| COMMENTS                                                  |  |
|-----------------------------------------------------------|--|
| weight acc to OD class rules incl outboard engine, 4 crew |  |

| SAILS (Maximum Areas)     |                                                    |
|---------------------------|----------------------------------------------------|
| Mainsail                  | MHB MUW MTW MHW MQW                                |
| 0.370 0.88 1.43 2.13 2.57 |                                                    |
| Area                      | Area (r)                                           |
| 15.44 16.00               | P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB) |
| Symmetric                 | Not Available                                      |
| Asymmetric on centerline  | SLU SLE SL SHW SFL                                 |
| 10.80 8.80 9.80 5.56 5.70 |                                                    |
| Area                      | AS · (SFL + 4·SHW) / 6                             |
| 45.64                     |                                                    |

| HEADSAILS                                                                 |  |
|---------------------------------------------------------------------------|--|
| Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB) |  |
| HHB HUW HTW HHW HQW HLP HLU Area Btn Fly Meas.Date Material Comment       |  |
| 0.06 0.65 1.25 1.86 2.45 8.00 10.02 Y                                     |  |
| CLASS                                                                     |  |

| MEASUREMENT INVENTORY |                                                |
|-----------------------|------------------------------------------------|
| Measurer              | Class rules weight                             |
| Date                  | 01/02/2016                                     |
| Comment               |                                                |
| Id                    | Item Weight Distance VCG Description           |
| 4                     | Anchor 7.0 3.40 0.00 Class rule 5kg-Tools 0.00 |
| Id                    | Item Maker Model                               |
| E                     | Engine OUTBOARD                                |
| Id                    | Item Weight Description                        |

| MEASUREMENT INVENTORY |                                      |
|-----------------------|--------------------------------------|
| Id                    | Item Weight Distance VCG Description |



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**2019**  
**IMS Measurement**  
**Certificate**

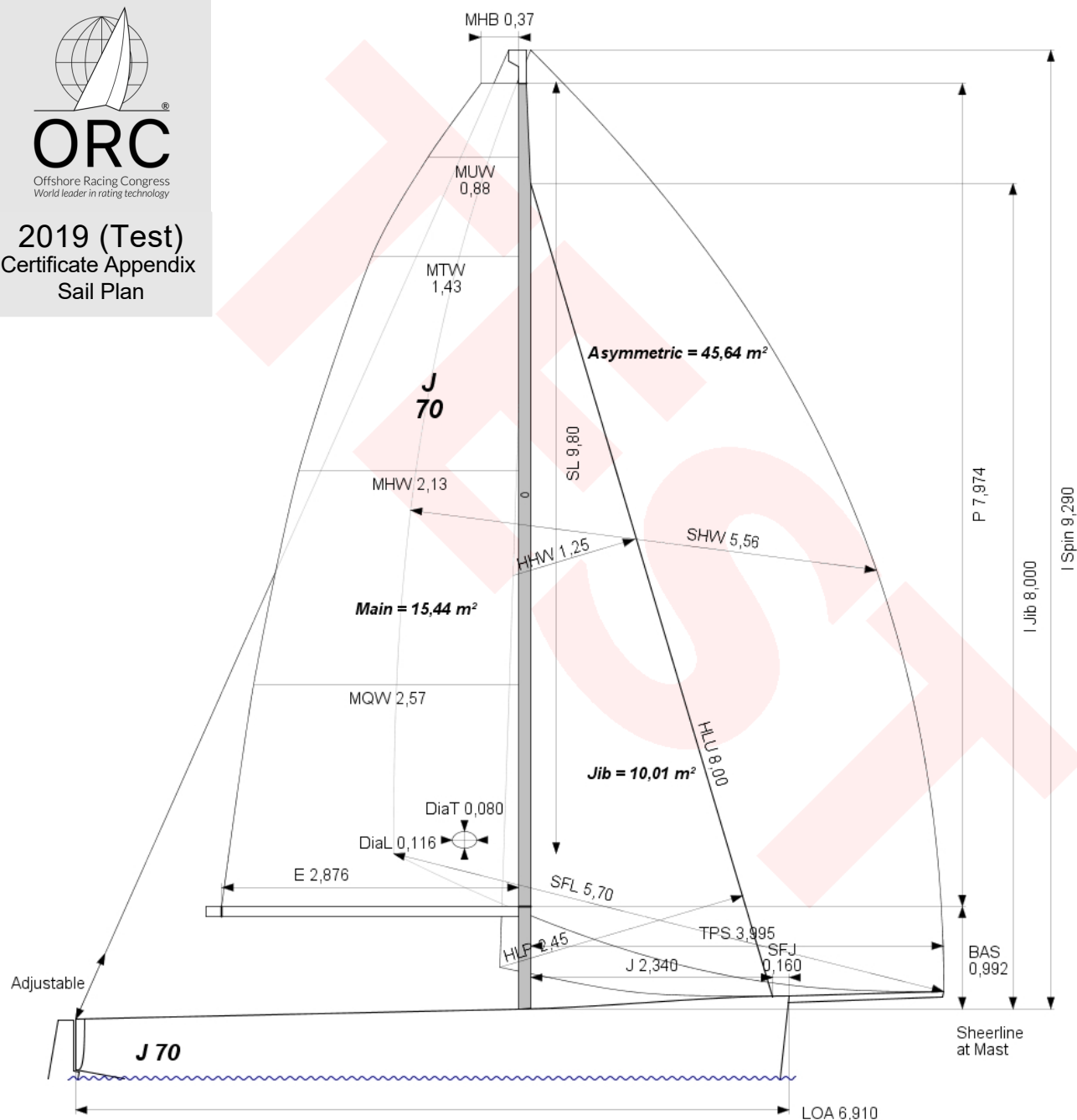
**Certificate**  
Number J701  
ORC Ref N/A  
Issued On 11/04/2019  
VPP Ver. 2019 1.01  
**Invalid for Racing**



**ORC**

Offshore Racing Congress  
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**2019 (Test)  
Certificate Appendix  
Sail Plan**



**SAILS INVENTORY**

**MAINSAIL (1)**

| Id  | MHB  | MUW  | MTW  | MHW  | MQW  | Area  | Measurer | Meas.Date | Manufacture | Material | Comment |
|-----|------|------|------|------|------|-------|----------|-----------|-------------|----------|---------|
| ORC | 0.37 | 0.88 | 1.43 | 2.13 | 2.57 | 15.44 | CLASS    |           |             |          | CLASS   |

**HEADSAILS (1)**

| Id  | HHB  | HUW | HTW  | HHW  | HQW  | HLP  | HLU  | Ovrlp | Area  | Btn | Fly | Measurer | Meas.Date | Manufacture | Material | Comment |
|-----|------|-----|------|------|------|------|------|-------|-------|-----|-----|----------|-----------|-------------|----------|---------|
| ORC | 0.06 |     | 0.65 | 1.25 | 1.86 | 2.45 | 8.00 | 105%  | 10.02 | Y   |     | CLASS    |           |             |          | CLASS   |

**SYMMETRIC SPINNAKERS (0)**

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

**ASYMMETRIC SPINNAKERS (1)**

| Id  | SLU   | SLE  | SL   | SHW  | SFL  | Area  | Kind | Measurer | Meas.Date | Manufacture | Material | Comment |
|-----|-------|------|------|------|------|-------|------|----------|-----------|-------------|----------|---------|
| ORC | 10.80 | 8.80 | 9.80 | 5.56 | 5.70 | 45.64 | asym | CLASS    |           |             |          | CLASS   |