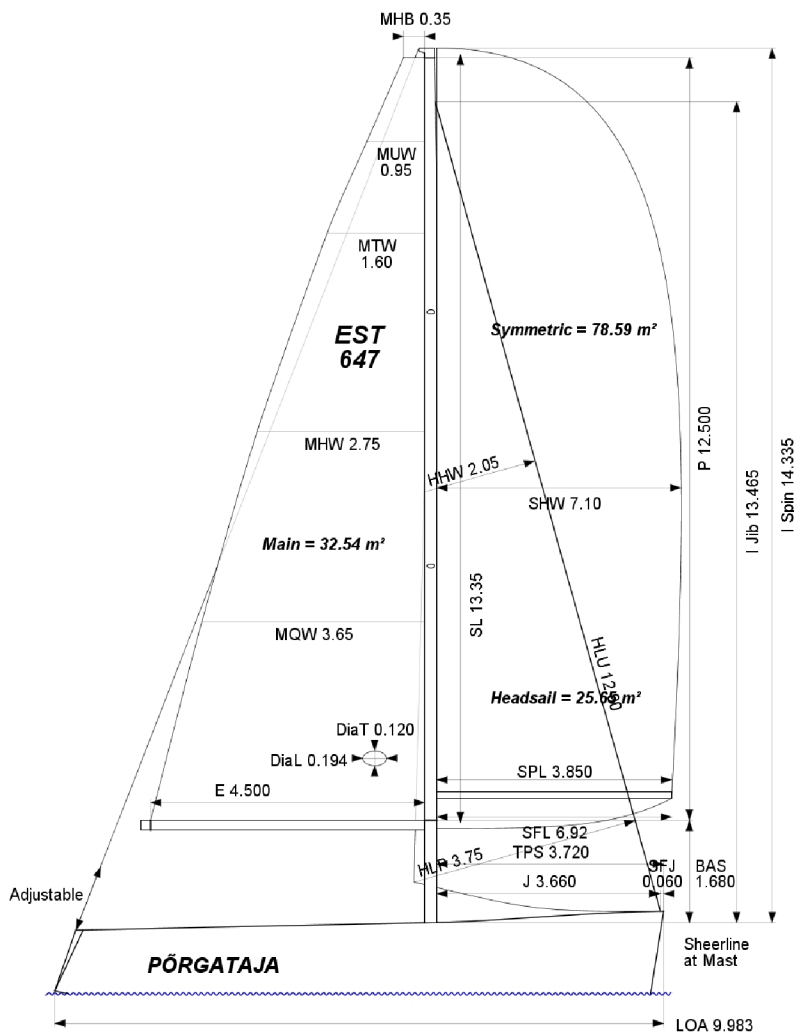




| BOAT          |                  | GPH         | HULL                      |                    |
|---------------|------------------|-------------|---------------------------|--------------------|
| Name          | PÖRGATAJA        | 653.6       | Data File                 | EST647             |
| Sail Nr       | EST 647          |             | Offset File               | ELAN340S.OFF       |
| CLASS         |                  |             | Displacement              | 5,247kg            |
| Class         | ELAN 340         |             | Dynamic All.              | 0.269%             |
| Designer      | HUMPHREYS        |             | Plan Review               | Construction Solid |
| Builder       | ELAN             |             | Fiber Rigging             | No                 |
| Series        | 03/2007          |             | Crew Arm Ex               | Aramid Core No     |
| Age Date      | 05/2010          |             |                           | Carbon Rudder No   |
| Age Allowance | 0.422%           |             |                           | Light Stanchions   |
| COMMENTS      |                  |             | IMSL                      | 9.571m             |
| PROPELLER     |                  |             | RL                        | 7.775m             |
| Installation  | Strut            | PRD 0.420   | WS                        | 23.45m²            |
| Type          | Folding 2 blades | PBW 0.120   | LSM0                      | 9.581m             |
|               |                  | PIPA 0.0032 | Displacement/Length ratio | 5.9659             |
| CENTERBOARD   |                  |             | Water Ballast             | Trim Tab No        |
|               |                  |             | BLR Index                 | 0.0000             |
|               |                  |             | N/A                       |                    |

| SCORING OPTIONS  |                         |        |        |                    |        |        |
|------------------|-------------------------|--------|--------|--------------------|--------|--------|
|                  | COASTAL / LONG DISTANCE |        |        | WINDWARD / LEEWARD |        |        |
| Time on Distance | 633.8                   |        |        | 705.2              |        |        |
| Time on Time     | 0.9467                  |        |        | 0.9571             |        |        |
| Triple Number    | Low                     | Medium | High   | Low                | Medium | High   |
| Time on Distance | 751.9                   | 577.9  | 515.3  | 969.1              | 710.3  | 613.2  |
| Time on Time     | 0.8977                  | 1.1680 | 1.3100 | 0.6965             | 0.9503 | 1.1007 |



**Rating Office**  
Estonian Yachting Union  
Purje 8, maja 3  
11911 Tallinn  
Estonia



**Certificate**  
Number 101/20  
Issued On 03/07/2020  
ORC Ref 03880000LVC  
VPP Ver. 2020 1.02  
Valid until 31/12/2020

**Crew Weight**  
Default 648kg  
Maximum 600kg  
Minimum\* 450kg  
\*when applied by the NoR and SI  
Non Manual Pwr No

**Special Scoring**  
ToD ToT  
Non Spin GPH 691.3 0.8679  
Non Spin OSN 667.8 0.8984

**Sails Limitations**  
Headsails 5 Spinnakers 4

**Spinnaker configuration**  
Symmetric: Yes 78.59  
Asymmetric: No  
Flying H/S: No  
Spin. Pole: Yes

**Class Division Length**  
CDL = 8.667

**Stability (Estimated)**  
Limit Positive Stab.: 117.5°  
Stability Index: 118.3

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |       |       |      |      |       |          |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |            |             |          |         |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|------|------|-------|----------|-----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|------------|-------------|----------|---------|--|--|--|
| <b>BOAT</b><br>Name <b>PÖRGATAJA</b> Sail Nr <b>EST 647</b><br>File <b>EST647</b> Data in <b>meters/kilograms</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |       |       |      |      |       |          |           |             | <b>INCLINING TEST AND FREEBOARDS</b><br>Inclining Test <b>Enter VCG directly</b><br>Flotation date <b>03/07/2020</b> SG <b>1.0260</b><br>VCGDe <b>0.100</b><br>FFM <b>1.339</b> FF <b>1.339</b> SFFP <b>0.360</b><br>FAM <b>1.016</b> FA <b>1.016</b> SAFF <b>9.513</b><br>LCF from stem on CL / on sheer <b>5.675 / 5.932</b><br>Maximum beam station from stem <b>6.210</b><br>RM Measured <b>106.0kg·m</b><br>RM Default <b>103.5kg·m</b><br>Limit of positive stability / Stab.Index <b>117.5° / 118.3</b><br>Freeboard at mast at 3.720 <b>1.163</b> |          |          |            |             |          |         |  |  |  |
| <b>RIG</b><br>Forestay Tension <b>Aft</b> Spreaders <b>2</b><br>Inner Stay <b>None Fitted</b> Runners/Checkstays <b>0</b><br>Carbon Mast <b>No</b> Jib Furler <b>No</b><br>Fiber Rigging <b>No</b> Main Furler <b>No</b><br>Non-Circular Rigging <b>No</b><br>Articulated Bowsprit <b>No</b><br>P <b>12.500</b> E <b>4.500</b> MDT1 <b>0.120</b> MW <b>0.185</b><br>IG <b>13.465</b> J <b>3.660</b> MDL1 <b>0.194</b> GO <b>0.198</b><br>ISP <b>14.335</b> SFJ <b>0.060</b> MDT2 <b>0.113</b> BD<br>BAS <b>1.680</b> SPL <b>3.850</b> MDL2 <b>0.155</b> MWT<br>FSD <b>-3.000</b> TPS <b>3.720</b> TL <b>1.750</b> MCG |       |       |       |      |      |       |          |           |             | <b>PROPELLER</b><br>Installation <b>Strut</b> PRD <b>0.420</b><br>Type <b>Folding 2 blades</b> PBW <b>0.120</b><br>Twin Screw <b>No</b> PIPA <b>0.0032</b><br>ST1 <b>0.065</b> ST3 <b>0.180</b> ST5 <b>0.340</b><br>ST2 <b>0.180</b> ST4 <b>0.090</b> EDL <b>1.900</b>                                                                                                                                                                                                                                                                                    |          |          |            |             |          |         |  |  |  |
| <b>MIZZEN RIG AND SAILS</b><br>N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |       |       |      |      |       |          |           |             | <b>MOVABLE BALLAST</b><br>N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |          |            |             |          |         |  |  |  |
| <b>COMMENTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |       |       |      |      |       |          |           |             | <b>CENTERBOARD</b><br>N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |          |            |             |          |         |  |  |  |
| <b>SAILS INVENTORY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |       |       |      |      |       |          |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |            |             |          |         |  |  |  |
| <b>MAINSAIL (1)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |       |       |      |      |       |          |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |            |             |          |         |  |  |  |
| Id                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | MHB   | MUW   | MTW   | MHW  | MQW  | Area  | Measurer | Meas.Date | Manufacture | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Comment  |          |            |             |          |         |  |  |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.35  | 0.95  | 1.60  | 2.75 | 3.65 | 32.54 |          |           |             | Unknown                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |          |            |             |          |         |  |  |  |
| <b>HEADSAILS (2)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |       |       |      |      |       |          |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |            |             |          |         |  |  |  |
| Id                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | HHB   | HUW   | HTW   | HHW  | HQW  | HLP   | HLU      | Ovrlp     | Area        | Btn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Flying   | Measurer | Meas.Date  | Manufacture | Material | Comment |  |  |  |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.11  | 0.59  | 1.10  | 2.05 | 2.93 | 3.75  | 12.90    | 102%      | 25.65       | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No       |          | 09/07/2015 |             | Unknown  |         |  |  |  |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.09  | 0.54  | 1.03  | 2.00 | 2.92 | 3.75  | 12.98    | 102%      | 25.39       | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No       |          |            |             | Unknown  |         |  |  |  |
| <b>SYMMETRIC SPINNAKERS (2)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |       |       |      |      |       |          |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |            |             |          |         |  |  |  |
| Id                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SLU   | SLE   | SL    | SHW  | SFL  | Area  | Measurer | Meas.Date | Manufacture | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Comment  |          |            |             |          |         |  |  |  |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 13.35 | 13.35 | 13.35 | 7.10 | 6.92 | 78.59 |          |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Unknown  |          |            |             |          |         |  |  |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 13.00 | 13.00 | 13.00 | 6.48 | 6.48 | 70.20 |          |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Unknown  |          |            |             |          |         |  |  |  |
| <b>ASYMMETRIC SPINNAKERS (0)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |       |       |      |      |       |          |           |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |            |             |          |         |  |  |  |
| Id                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SLU   | SLE   | SL    | SHW  | SFL  | Area  | Kind     | Measurer  | Meas.Date   | Manufacture                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Material | Comment  |            |             |          |         |  |  |  |



**ORC**

Offshore Racing Congress  
World leader in rating technology

**2020**  
**Measurements**  
**Datasheet**

**Certificate**

Number **101/20**  
ORC Ref **03880000LVC**  
Issued On **03/07/2020**  
VPP Ver. **2020 1.02**  
Valid until **31/12/2020**



**ESTONIAN**  
**YACHTING**  
**UNION**

# 2020

## ORC Club Certificate Appendix

| BOAT    |                  |                    |                   |
|---------|------------------|--------------------|-------------------|
| Name    | <b>PÖRGATAJA</b> | Certificate Number | <b>101/20</b>     |
| Sail Nr | <b>EST 647</b>   | Issued On          | <b>03/07/2020</b> |

| TIME ALLOWANCES         |               |              |              |              |              |              |              |
|-------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Wind Velocity           | 6 kt          | 8 kt         | 10 kt        | 12 kt        | 14 kt        | 16 kt        | 20 kt        |
| Beat VMG                | <b>1125.5</b> | <b>933.3</b> | <b>824.0</b> | <b>757.3</b> | <b>730.9</b> | <b>722.2</b> | <b>719.1</b> |
| 52°                     | <b>733.8</b>  | <b>622.4</b> | <b>557.9</b> | <b>528.6</b> | <b>515.9</b> | <b>511.2</b> | <b>510.2</b> |
| 60°                     | <b>694.4</b>  | <b>591.7</b> | <b>539.3</b> | <b>515.8</b> | <b>503.5</b> | <b>497.2</b> | <b>494.3</b> |
| 75°                     | <b>667.5</b>  | <b>568.9</b> | <b>526.0</b> | <b>505.3</b> | <b>490.9</b> | <b>479.9</b> | <b>468.2</b> |
| 90°                     | <b>665.6</b>  | <b>557.1</b> | <b>512.3</b> | <b>494.9</b> | <b>486.4</b> | <b>471.9</b> | <b>446.5</b> |
| 110°                    | <b>657.8</b>  | <b>547.1</b> | <b>504.8</b> | <b>481.2</b> | <b>460.5</b> | <b>445.7</b> | <b>426.9</b> |
| 120°                    | <b>677.1</b>  | <b>559.2</b> | <b>509.9</b> | <b>484.6</b> | <b>461.3</b> | <b>439.1</b> | <b>408.5</b> |
| 135°                    | <b>745.6</b>  | <b>609.2</b> | <b>533.8</b> | <b>500.7</b> | <b>477.8</b> | <b>454.4</b> | <b>409.4</b> |
| 150°                    | <b>876.2</b>  | <b>697.9</b> | <b>594.0</b> | <b>531.0</b> | <b>501.0</b> | <b>479.6</b> | <b>436.0</b> |
| Run VMG                 | <b>1011.8</b> | <b>805.8</b> | <b>684.5</b> | <b>603.4</b> | <b>546.1</b> | <b>510.4</b> | <b>467.7</b> |
| Selected Courses        |               |              |              |              |              |              |              |
| Windward / Leeward      | <b>1068.6</b> | <b>869.6</b> | <b>754.2</b> | <b>680.3</b> | <b>638.5</b> | <b>616.3</b> | <b>593.4</b> |
| Circular Random         | <b>901.8</b>  | <b>727.6</b> | <b>633.9</b> | <b>579.6</b> | <b>546.5</b> | <b>525.3</b> | <b>499.5</b> |
| Coastal / Long Distance | <b>1062.9</b> | <b>816.0</b> | <b>679.4</b> | <b>596.9</b> | <b>555.8</b> | <b>525.5</b> | <b>477.3</b> |
| Non Spinnaker           | <b>970.6</b>  | <b>775.9</b> | <b>669.5</b> | <b>606.7</b> | <b>568.1</b> | <b>543.4</b> | <b>514.1</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>42.8°</b>  | <b>41.3°</b>  | <b>40.5°</b>  | <b>39.8°</b>  | <b>39.0°</b>  | <b>38.6°</b>  | <b>38.6°</b>  |
| Beat VMG                                          | <b>3.20</b>   | <b>3.86</b>   | <b>4.37</b>   | <b>4.75</b>   | <b>4.93</b>   | <b>4.98</b>   | <b>5.01</b>   |
| 52°                                               | <b>4.91</b>   | <b>5.78</b>   | <b>6.45</b>   | <b>6.81</b>   | <b>6.98</b>   | <b>7.04</b>   | <b>7.06</b>   |
| 60°                                               | <b>5.18</b>   | <b>6.08</b>   | <b>6.67</b>   | <b>6.98</b>   | <b>7.15</b>   | <b>7.24</b>   | <b>7.28</b>   |
| 75°                                               | <b>5.39</b>   | <b>6.33</b>   | <b>6.84</b>   | <b>7.12</b>   | <b>7.33</b>   | <b>7.50</b>   | <b>7.69</b>   |
| 90°                                               | <b>5.41</b>   | <b>6.46</b>   | <b>7.03</b>   | <b>7.27</b>   | <b>7.40</b>   | <b>7.63</b>   | <b>8.06</b>   |
| 110°                                              | <b>5.47</b>   | <b>6.58</b>   | <b>7.13</b>   | <b>7.48</b>   | <b>7.82</b>   | <b>8.08</b>   | <b>8.43</b>   |
| 120°                                              | <b>5.32</b>   | <b>6.44</b>   | <b>7.06</b>   | <b>7.43</b>   | <b>7.80</b>   | <b>8.20</b>   | <b>8.81</b>   |
| 135°                                              | <b>4.83</b>   | <b>5.91</b>   | <b>6.74</b>   | <b>7.19</b>   | <b>7.53</b>   | <b>7.92</b>   | <b>8.79</b>   |
| 150°                                              | <b>4.11</b>   | <b>5.16</b>   | <b>6.06</b>   | <b>6.78</b>   | <b>7.19</b>   | <b>7.51</b>   | <b>8.26</b>   |
| Run VMG                                           | <b>3.56</b>   | <b>4.47</b>   | <b>5.26</b>   | <b>5.97</b>   | <b>6.59</b>   | <b>7.05</b>   | <b>7.70</b>   |
| Gybe Angles                                       | <b>146.0°</b> | <b>150.0°</b> | <b>152.0°</b> | <b>158.0°</b> | <b>180.0°</b> | <b>180.0°</b> | <b>180.0°</b> |