



World Leader in Rating Technology

## 2017 ORC Club Certificate

### Rating Office

**PATRICIO D. GUTIERREZ  
C. GRIERSON Y  
COSTANERASUR  
Y.C.A**



### Certificate

Number **483701**  
Issued On **10/03/2017**  
ORC Ref **ARG00004508**  
VPP Ver. **2017 1.00**  
Valid until **31/12/2017**

### Crew Weight

Declared **482kg**  
Default\* **577kg**  
Non Manual Pwr **No**

### Special Scoring

|              | ToD          | ToT           |
|--------------|--------------|---------------|
| Double H.GPH | <b>675,2</b> | <b>0,8886</b> |
| Double H.OSN | <b>658,5</b> | <b>0,9112</b> |
| Non Spin GPH | <b>692,4</b> | <b>0,8666</b> |
| Non Spin OSN | <b>672,7</b> | <b>0,8919</b> |

### Sails Limitations

Headsails **5** Spinnakers **3**

### Spinnaker configuration

Symmetric: **Yes** **56,05**  
Asymmetric: **No**  
Flying H/S: **No**  
Spin. Pole: **Yes**

### Class Division Length

**CDL = 8,094**

### Stability (Estimated)

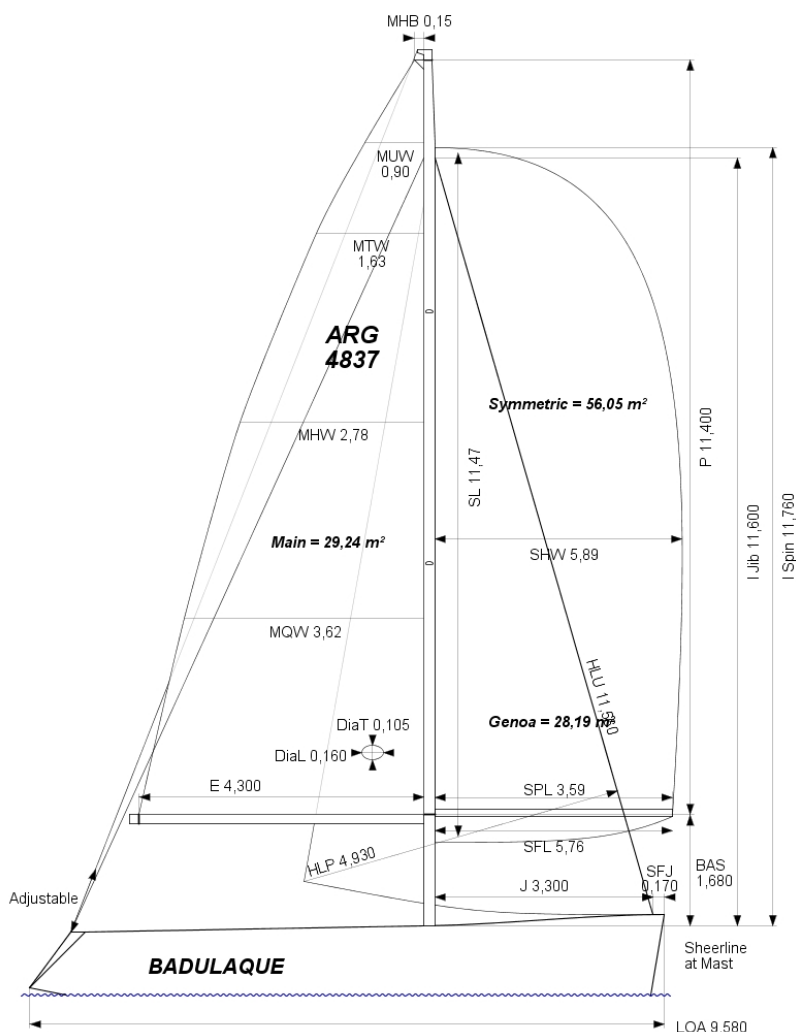
Limit Positive Stab.: **123,5°**  
Stability Index: **122,0**

### Owner

**ALBERTO FERNANDEZ  
SOBRINO  
LAS HERAS 2251, MARTINEZ**

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

Signature



| BOAT            |                         | GPH                | HULL                      |                      |
|-----------------|-------------------------|--------------------|---------------------------|----------------------|
| Name            | <b>BADULAQUE</b>        | <b>670,8</b>       | Data File                 | <b>ARG48370</b>      |
| Sail Nr         | <b>ARG-4837</b>         |                    | LOA                       | <b>9,580m</b>        |
| CLASS           |                         |                    | Offset File               | <b>BADULAQU.OFF</b>  |
| Class           | <b>PND31</b>            |                    | Displacement              | <b>3.954kg</b>       |
| Designer        | <b>G. FRERS</b>         |                    | MB                        | <b>3,302m</b>        |
| Builder         | <b>AST. MARCO</b>       |                    | Draft                     | <b>1,652m</b>        |
| Series          | <b>06/1994</b>          |                    | IMS Division              | <b>Cruiser/Racer</b> |
| Age Date        | <b>06/1994</b>          |                    | Dynamic All.              | <b>0,205%</b>        |
| Age Allowance   | <b>0,487%</b>           |                    | Fwd Accom.                | <b>No</b>            |
| COMMENTS        |                         |                    | Construction              | <b>Solid</b>         |
| PROPELLER       |                         |                    | Fiber Rigging             | <b>No</b>            |
| Installation    | <b>Shaft exposed</b>    | PRD <b>0,350</b>   | Crew Arm Ex               | <b>No</b>            |
| Type            | <b>Folding 2 blades</b> | PBW <b>0,110</b>   | Carbon Rudder             | <b>No</b>            |
|                 |                         | PIPA <b>0,0050</b> | Light Stanchions          | <b>No</b>            |
| SCORING OPTIONS |                         |                    | IMS L                     | <b>8,917m</b>        |
|                 |                         |                    | VCGD                      | <b>-0,058m</b>       |
|                 |                         |                    | Sink                      | <b>14,68kg/mm</b>    |
|                 |                         |                    | RL                        | <b>7,269m</b>        |
|                 |                         |                    | VCGM                      | <b>-0,083m</b>       |
|                 |                         |                    | WS                        | <b>19,37m²</b>       |
|                 |                         |                    | LSM0                      | <b>8,840m</b>        |
|                 |                         |                    | Displacement/Length ratio | <b>5,7237</b>        |
|                 |                         |                    | Water Ballast             | <b>0</b>             |
|                 |                         |                    | Trim Tab                  | <b>No</b>            |
|                 |                         |                    | CENTERBOARD               |                      |
|                 |                         |                    | N/A                       |                      |

|                  | COASTAL / LONG DISTANCE |               |               | WINDWARD / LEEWARD |               |               |
|------------------|-------------------------|---------------|---------------|--------------------|---------------|---------------|
| Time On Distance | <b>652,9</b>            |               |               | <b>729,2</b>       |               |               |
| Time On Time     | <b>0,9190</b>           |               |               | <b>0,9256</b>      |               |               |
| Triple Number    | Low                     | Medium        | High          | Low                | Medium        | High          |
| Time on Distance | <b>770,9</b>            | <b>593,8</b>  | <b>526,9</b>  | <b>1002,1</b>      | <b>735,0</b>  | <b>632,7</b>  |
| Time on Time     | <b>0,8756</b>           | <b>1,1367</b> | <b>1,2811</b> | <b>0,6736</b>      | <b>0,9184</b> | <b>1,0668</b> |

|             |                  |                                 |
|-------------|------------------|---------------------------------|
| <b>BOAT</b> |                  |                                 |
| Name        | <b>BADULAQUE</b> | Sail Nr <b>ARG-4837</b>         |
| File        | <b>ARG48370</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>1</b>                  |
| Carbon Mast          | <b>No</b>          | Jumper Struts <b>None</b>         |
| Taper Hollows        | <b>No</b>          | Jib Furler <b>No</b>              |
| Fiber Rigging        | <b>No</b>          | Main Furler <b>No</b>             |
| Lenticular Rigging   | <b>No</b>          | Without Backstay <b>No</b>        |
| Articulated Bowsprit | <b>No</b>          |                                   |
| P <b>11,400</b>      | E <b>4,300</b>     | MDT1 <b>0,105</b> MW <b>0,120</b> |
| IG <b>11,600</b>     | J <b>3,300</b>     | MDL1 <b>0,160</b> GO <b>0,140</b> |
| ISP <b>11,760</b>    | SFJ <b>0,170</b>   | MDT2 <b>0,105</b> BD <b>0,130</b> |
| BAS <b>1,680</b>     | SPL <b>3,590</b>   | MDL2 <b>0,120</b> MWT             |
| FSP <b>0,050</b>     | TPS                | TL <b>1,300</b> MCG               |

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

|                 |  |  |
|-----------------|--|--|
| <b>COMMENTS</b> |  |  |
|                 |  |  |

|                                          |                           |                   |
|------------------------------------------|---------------------------|-------------------|
| <b>INCLINING TEST AND FREEBOARDS</b>     |                           |                   |
| Inclining Test                           | <b>Club Estimated VCG</b> |                   |
| Flotation date                           | <b>15/07/2007</b>         | SG <b>1,0000</b>  |
| FFM <b>1,202</b>                         | FF <b>1,219</b>           | SFFP <b>0,150</b> |
| FAM <b>0,942</b>                         | FA <b>0,953</b>           | SAFP <b>8,750</b> |
| LCF from stem on CL / on sheer           | <b>5,323 / 5,555</b>      |                   |
| Maximum beam station from stem           | <b>6,260</b>              |                   |
| RM Measured                              | <b>77,4kg-m</b>           |                   |
| RM Default                               | <b>75,2kg-m</b>           |                   |
| Limit of positive stability / Stab.Index | <b>123,5° / 122,0</b>     |                   |
| Freeboard at mast at 3,470               | <b>1,037</b>              |                   |

|                   |                         |                                   |
|-------------------|-------------------------|-----------------------------------|
| <b>PROPELLER</b>  |                         |                                   |
| Installation      | <b>Shaft exposed</b>    | PRD <b>0,350</b>                  |
| Type              | <b>Folding 2 blades</b> | PBW <b>0,110</b>                  |
| Twin Screw        | <b>No</b>               | PIPA <b>0,0050</b>                |
| PSA <b>20,000</b> | PHL <b>0,150</b>        | ST3 <b>0,075</b> ESL <b>0,890</b> |
| PSD <b>0,025</b>  | ST1 <b>0,040</b>        | ST4 <b>0,050</b>                  |
| PHD <b>0,070</b>  | ST2 <b>0,075</b>        | ST5 <b>0,160</b>                  |

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

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



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## Measurements Datasheet

|                    |                    |
|--------------------|--------------------|
| <b>Certificate</b> |                    |
| Number             | <b>483701</b>      |
| ORC Ref            | <b>ARG00004508</b> |
| Issued On          | <b>10/03/2017</b>  |
| VPP Ver.           | <b>2017 1.00</b>   |
| Valid until        | <b>31/12/2017</b>  |



| SAILS INVENTORY           |       |       |       |      |      |       |          |            |             |             |                        |          |            |             |          |         |
|---------------------------|-------|-------|-------|------|------|-------|----------|------------|-------------|-------------|------------------------|----------|------------|-------------|----------|---------|
| MAINSAIL (1)              |       |       |       |      |      |       |          |            |             |             |                        |          |            |             |          |         |
| Id                        | MHB   | MUW   | MTW   | MHW  | MQW  | Area  | Measurer | Meas.Date  | Manufacture | Material    | Comment                |          |            |             |          |         |
| M2                        | 0,150 | 0,90  | 1,63  | 2,78 | 3,62 | 29,24 |          | 22/07/2014 | NORTH       | Kevlar      |                        |          |            |             |          |         |
| HEADSAILS (1)             |       |       |       |      |      |       |          |            |             |             |                        |          |            |             |          |         |
| Id                        | HHB   | HUW   | HTW   | HHW  | HQW  | HLP   | HLU      | Ovrlp      | Area        | Btn         | Fly                    | Measurer | Meas.Date  | Manufacture | Material | Comment |
| G1 MD                     | 0,07  | 0,62  | 1,20  | 2,41 | 3,64 | 4,93  | 11,56    | 149%       | 28,19       |             |                        |          | 25/08/2014 | NORTH       | Kevlar   |         |
|                           |       |       |       |      |      |       |          |            |             |             |                        |          |            |             |          |         |
| SYMMETRIC SPINNAKERS (2)  |       |       |       |      |      |       |          |            |             |             |                        |          |            |             |          |         |
| Id                        | SLU   | SLE   | SL    | SHW  | SFL  | Area  | Measurer | Meas.Date  | Manufacture | Material    | Comment                |          |            |             |          |         |
| S3                        | 11,47 | 11,47 | 11,47 | 5,89 | 5,76 | 56,05 |          |            |             |             | * Copied from legacy * |          |            |             |          |         |
| S5                        | 11,50 | 11,50 | 11,50 | 5,40 | 5,72 | 52,36 |          | 04/11/2015 | NORTH       | Nylon       |                        |          |            |             |          |         |
| ASYMMETRIC SPINNAKERS (0) |       |       |       |      |      |       |          |            |             |             |                        |          |            |             |          |         |
| Id                        | SLU   | SLE   | SL    | SHW  | SFL  | Area  | Kind     | Measurer   | Meas.Date   | Manufacture | Material               | Comment  |            |             |          |         |



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## ORC Club Certificate Appendix

### BOAT

Name **BADULAQUE**  
Sail Nr **ARG-4837**

Certificate Number **483701**  
Issued On **10/03/2017**

### TIME ALLOWANCES

| Wind Velocity | 6 kt          | 8 kt         | 10 kt        | 12 kt        | 14 kt        | 16 kt        | 20 kt        |
|---------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Beat VMG      | <b>1131,4</b> | <b>944,2</b> | <b>839,5</b> | <b>783,2</b> | <b>756,9</b> | <b>744,1</b> | <b>739,9</b> |
| 52°           | <b>734,0</b>  | <b>618,2</b> | <b>558,8</b> | <b>535,6</b> | <b>526,0</b> | <b>521,1</b> | <b>518,0</b> |
| 60°           | <b>689,6</b>  | <b>583,4</b> | <b>540,0</b> | <b>520,6</b> | <b>510,2</b> | <b>504,6</b> | <b>500,6</b> |
| 75°           | <b>652,8</b>  | <b>559,6</b> | <b>526,1</b> | <b>506,8</b> | <b>491,6</b> | <b>479,1</b> | <b>468,1</b> |
| 90°           | <b>653,0</b>  | <b>558,2</b> | <b>523,1</b> | <b>501,3</b> | <b>485,9</b> | <b>468,5</b> | <b>441,0</b> |
| 110°          | <b>690,1</b>  | <b>569,2</b> | <b>522,4</b> | <b>496,5</b> | <b>471,1</b> | <b>448,5</b> | <b>426,5</b> |
| 120°          | <b>713,6</b>  | <b>585,3</b> | <b>529,4</b> | <b>502,7</b> | <b>479,2</b> | <b>454,4</b> | <b>409,6</b> |
| 135°          | <b>793,0</b>  | <b>646,1</b> | <b>559,3</b> | <b>521,3</b> | <b>497,3</b> | <b>473,6</b> | <b>425,7</b> |
| 150°          | <b>936,2</b>  | <b>737,8</b> | <b>624,6</b> | <b>553,5</b> | <b>520,1</b> | <b>497,4</b> | <b>452,3</b> |
| Run VMG       | <b>1081,0</b> | <b>851,6</b> | <b>718,9</b> | <b>628,3</b> | <b>564,5</b> | <b>527,2</b> | <b>482,6</b> |

### Selected Courses

|                    |               |              |              |              |              |              |              |
|--------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Windward / Leeward | <b>1106,2</b> | <b>897,9</b> | <b>779,2</b> | <b>705,7</b> | <b>660,7</b> | <b>635,6</b> | <b>611,2</b> |
| Circular Random    | <b>925,6</b>  | <b>746,8</b> | <b>650,8</b> | <b>594,7</b> | <b>560,1</b> | <b>537,5</b> | <b>509,3</b> |
| Ocean for PCS      | <b>1138,9</b> | <b>878,7</b> | <b>731,9</b> | <b>642,0</b> | <b>583,3</b> | <b>542,1</b> | <b>483,5</b> |
| Non Spinnaker      | <b>964,3</b>  | <b>774,1</b> | <b>671,1</b> | <b>610,7</b> | <b>573,3</b> | <b>548,9</b> | <b>518,3</b> |

### Velocity Prediction in Knots for True Wind Speeds

| Wind Velocity | 6 kt          | 8 kt          | 10 kt         | 12 kt         | 14 kt         | 16 kt         | 20 kt         |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Beat Angles   | <b>44,0°</b>  | <b>42,7°</b>  | <b>43,1°</b>  | <b>41,5°</b>  | <b>40,3°</b>  | <b>39,6°</b>  | <b>39,5°</b>  |
| Beat VMG      | <b>3,18</b>   | <b>3,81</b>   | <b>4,29</b>   | <b>4,60</b>   | <b>4,76</b>   | <b>4,84</b>   | <b>4,87</b>   |
| 52°           | <b>4,90</b>   | <b>5,82</b>   | <b>6,44</b>   | <b>6,72</b>   | <b>6,84</b>   | <b>6,91</b>   | <b>6,95</b>   |
| 60°           | <b>5,22</b>   | <b>6,17</b>   | <b>6,67</b>   | <b>6,92</b>   | <b>7,06</b>   | <b>7,13</b>   | <b>7,19</b>   |
| 75°           | <b>5,51</b>   | <b>6,43</b>   | <b>6,84</b>   | <b>7,10</b>   | <b>7,32</b>   | <b>7,51</b>   | <b>7,69</b>   |
| 90°           | <b>5,51</b>   | <b>6,45</b>   | <b>6,88</b>   | <b>7,18</b>   | <b>7,41</b>   | <b>7,68</b>   | <b>8,16</b>   |
| 110°          | <b>5,22</b>   | <b>6,33</b>   | <b>6,89</b>   | <b>7,25</b>   | <b>7,64</b>   | <b>8,03</b>   | <b>8,44</b>   |
| 120°          | <b>5,04</b>   | <b>6,15</b>   | <b>6,80</b>   | <b>7,16</b>   | <b>7,51</b>   | <b>7,92</b>   | <b>8,79</b>   |
| 135°          | <b>4,54</b>   | <b>5,57</b>   | <b>6,44</b>   | <b>6,91</b>   | <b>7,24</b>   | <b>7,60</b>   | <b>8,46</b>   |
| 150°          | <b>3,85</b>   | <b>4,88</b>   | <b>5,76</b>   | <b>6,50</b>   | <b>6,92</b>   | <b>7,24</b>   | <b>7,96</b>   |
| Run VMG       | <b>3,33</b>   | <b>4,23</b>   | <b>5,01</b>   | <b>5,73</b>   | <b>6,38</b>   | <b>6,83</b>   | <b>7,46</b>   |
| Gybe Angles   | <b>146,8°</b> | <b>151,3°</b> | <b>153,4°</b> | <b>158,7°</b> | <b>180,0°</b> | <b>180,0°</b> | <b>180,0°</b> |