



GPH = 568.4 **CDL = 9.053**

BOAT

Class **HPE30**
Designer **Javier Soto**
Builder **Zonda Boats**
Age Date **08/2014**
Series Date **10/2011**
Offset File **D77-SOTO30-BRAZIL.off**

HULL

Length Overall **9.222 m**
Maximum Beam **3.034 m**
Draft **2.013 m**
Displacement **1,854 kg**
DLR **2.6308**
IMS Division **Performance**
Dynamic Allowance **0.000%**
Age Allowance **0.325%**

PROPELLER

Installation **No Propeller**
Type **N/A**
Diameter **N/A**

CREW

Maximum weight **560 kg**
Minimum weight **420 kg * when applied**
Non Manual Power **No**
Crew Arm Extension

SAIL AREAS (m²)

| | Measured | Rated |
|-----------------|--------------|--------------|
| Mainsail | 32.53 | 33.42 |
| Headsail Luffed | 22.22 | 22.22 |
| Headsail Flying | | |

Symmetric
Asymmetric **98.47** **98.47**
** All asymmetric spinnakers with SHW/SFL > 85%*

SAIL LIMITATIONS

Headsails **5**
Spinnakers **4**

STABILITY

Righting Moment **49.6 kg·m**
Stability Index **114.0**

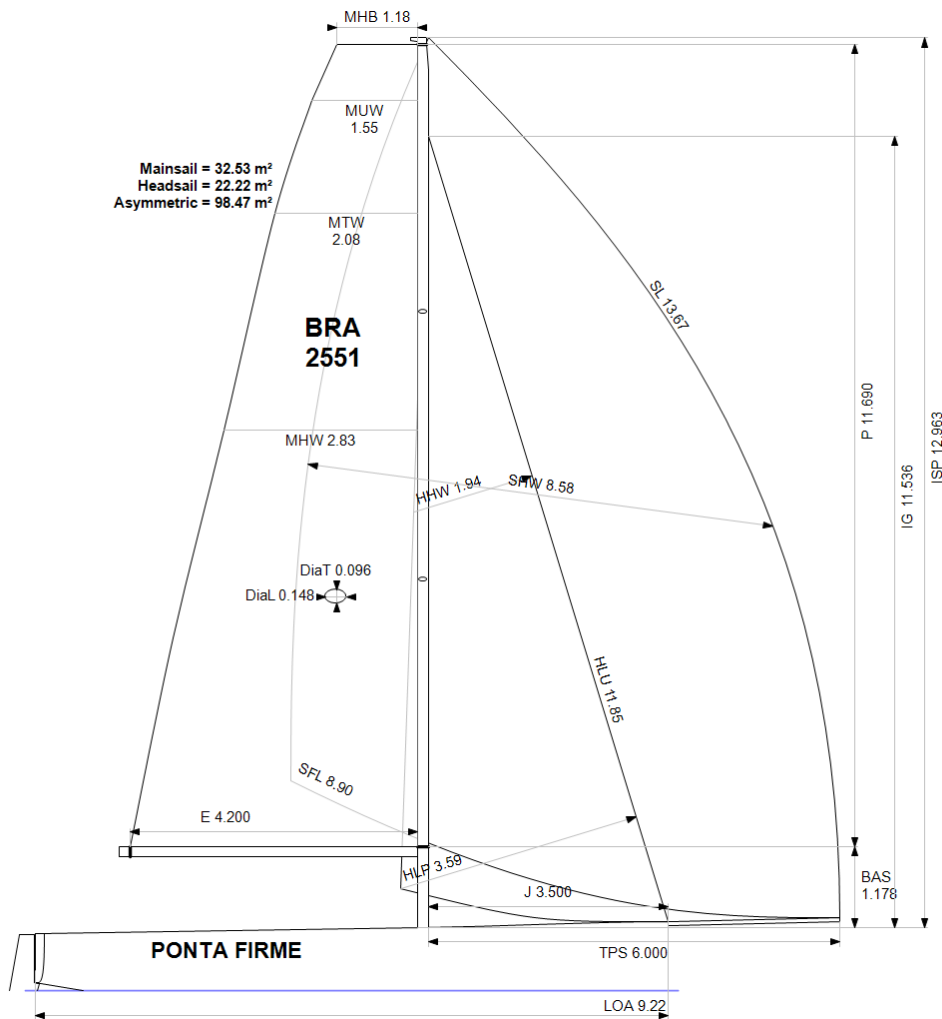
COMMENTS

Casco #001 Copied IRC 2020

OWNER

Adriano Santos
Praça Menino de Deus, 80
Porto Alegre, RS

The owner certifies that he/she understands his/her responsibilities under ORC Rule and Regulations.



Rated boat velocities in knots

| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt |
|---------------|--------|--------|--------|--------|--------|--------|--------|
| Beat Angles | 43.1° | 41.3° | 39.0° | 39.0° | 38.6° | 38.3° | 39.8° |
| Beat VMG | 3.86 | 4.67 | 4.99 | 5.10 | 5.16 | 5.26 | 5.18 |
| 52° | 5.92 | 6.84 | 7.13 | 7.25 | 7.32 | 7.45 | 7.51 |
| 60° | 6.29 | 7.05 | 7.39 | 7.57 | 7.67 | 7.81 | 8.01 |
| 75° | 6.57 | 7.21 | 7.76 | 8.16 | 8.39 | 8.52 | 8.96 |
| 90° | 6.53 | 7.22 | 7.83 | 8.54 | 9.07 | 9.38 | 9.73 |
| 110° | 6.49 | 7.41 | 8.10 | 8.64 | 9.19 | 9.74 | 11.22 |
| 120° | 6.35 | 7.34 | 8.24 | 9.01 | 9.60 | 10.26 | 11.62 |
| 135° | 5.66 | 6.96 | 7.74 | 8.73 | 9.94 | 11.19 | 13.02 |
| 150° | 4.76 | 6.01 | 6.97 | 7.67 | 8.52 | 9.63 | 12.69 |
| Run VMG | 4.12 | 5.21 | 6.02 | 6.64 | 7.38 | 8.34 | 10.99 |
| Gybe Angles | 143.0° | 145.8° | 151.5° | 149.5° | 146.0° | 145.0° | 143.6° |



International
Certificate
2021

Boat
PONTA FIRME
BRA-2551

ABVO ORC BRASIL



Certificate number: 255101

| Time Allowances in secs/NM | | | | | | | |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|
| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt |
| Beat VMG | 932.3 | 770.9 | 721.1 | 705.8 | 698.1 | 684.7 | 695.3 |
| 52° | 608.4 | 526.1 | 504.7 | 496.2 | 492.1 | 483.4 | 479.1 |
| 60° | 572.7 | 511.0 | 487.1 | 475.7 | 469.1 | 461.1 | 449.6 |
| 75° | 547.9 | 499.4 | 463.7 | 441.0 | 429.3 | 422.6 | 401.8 |
| 90° | 551.3 | 498.3 | 460.0 | 421.8 | 396.7 | 383.7 | 370.1 |
| 110° | 554.7 | 486.1 | 444.7 | 416.8 | 391.8 | 369.7 | 320.8 |
| 120° | 566.6 | 490.3 | 437.0 | 399.6 | 375.1 | 350.7 | 309.9 |
| 135° | 635.8 | 517.6 | 464.9 | 412.3 | 362.2 | 321.8 | 276.5 |
| 150° | 756.3 | 598.5 | 516.2 | 469.6 | 422.3 | 373.8 | 283.6 |
| Run VMG | 873.3 | 691.1 | 597.8 | 542.3 | 487.6 | 431.6 | 327.5 |
| Selected Courses | | | | | | | |
| Windward / Leeward | 902.8 | 731.0 | 659.5 | 624.1 | 592.9 | 558.2 | 511.4 |
| All purpose | 691.8 | 580.7 | 530.4 | 500.1 | 475.7 | 452.1 | 418.9 |

| Single Number Scoring Options | | |
|-------------------------------|------------------|--------------|
| Course | Time On Distance | Time On Time |
| Windward / Leeward | 637.3 | 0.9415 |
| All purpose | 510.1 | 1.1763 |



Data in meters/kilograms (Metric)

HULL AND APPENDAGES

| | | | | | |
|-------------------|-------------------|--------------|--------------|--------------------------------|---------------|
| Class | HPE30 | LOA | 9.222 | VCGD | -0.205 |
| Measurement | 09/02/2015 | Max. Beam | 3.034 | VCGM | -0.218 |
| Measurer | GORDON | Draft | 2.013 | RM Measured (kg·m) | 49.6 |
| HIN | | Displacement | 1,854 | RM Default (kg·m) | 54.7 |
| Plan review | | Wetted area | 16.29 | Limit of positive stability(°) | 120.4 |
| Hull construction | Cored | IMS L | 9.165 | Stability Index | 114.0 |
| Carbon Rudder | Yes | LSM0 | 8.898 | | |
| Light stanchions | No | Acc. length | 9.222 | | |
| Trim tab | No | Sink (kg/mm) | 12.76 | | |

PROPELLER

Propeller Type **No Propeller**
PIPA **0.0000**

RIG

| | | | | | |
|----------------------|--------------------|------|---------------|-----|--------------|
| Forestay tension | Aft | P | 11.690 | E | 4.200 |
| Inner stay | None Fitted | IG | 11.536 | J | 3.500 |
| Carbon mast | No | ISP | 12.963 | BAS | 1.178 |
| Headsail furler | No | MDT1 | 0.096 | FSD | 0.217 |
| Mainsail furler | No | MDL1 | 0.148 | SFJ | 0.000 |
| Articulated bowsprit | No | MDT2 | 0.096 | SPL | |
| Non-circular rigging | No | MDL2 | 0.120 | TPS | 6.000 |
| Fiber rigging | No | TL | 0.380 | BD | 0.145 |
| Runners/Checkstays | 0 | MW | 0.145 | MWT | 91.80 |
| Spreaders | 2 | GO | 0.166 | MCG | 4.270 |

FLOTATION AND STABILITY

| | | | | | | | | | | | |
|----------------|------------------------|-------|---------------|-------|--------------|----|-------------|-----|--------------|-----|----------------|
| Inclining Test | Poles Inclining | SFFP | 0.123 | SAFP | 9.225 | W1 | 10.0 | PD1 | 67.0 | WD | 9.560 |
| Flotation Date | 10/02/2015 | FFM | 1.005 | FAM | 0.759 | W2 | 20.0 | PD2 | 134.0 | PLM | 2000.00 |
| Measurer | | FF | 1.006 | FA | 0.760 | W3 | 30.0 | PD3 | 201.0 | GSA | 52.8 |
| Comment | | LCFcl | 5.053 | LCFsh | 5.273 | W4 | 40.0 | PD4 | 268.0 | RSA | 7389.8 |
| | | SG | 1.0180 | HBI | 0.915 | | | | | | |



International
Certificate
2021

Boat
PONTA FIRME
BRA-2551

ABVO ORC BRASIL



Certificate number: 255101

MAINSAIL

| Id | MHB | MUW | MTW | MHW | MQW | Area | Measurer | Meas.Date | Maker | Material | Comment |
|----------|-------------|-------------|-------------|-------------|-----|--------------|----------|-----------|-------|----------------|------------------------|
| M | 1.18 | 1.55 | 2.08 | 2.83 | | 32.53 | | | | Unknown | Copied IRC 2020 |

HEADSAIL

| Id | HHB | HUW | HTW | HHW | HQW | HLP | HLU | Btn | Flying | FT | Area | Measurer | Meas.Date | Maker | Material | Comment |
|-----------|-------------|-------------|-------------|-------------|-----|-------------|--------------|------------|-----------|----|--------------|----------|-----------|-------|----------------|------------------------|
| J1 | 0.07 | 0.54 | 1.07 | 1.94 | | 3.59 | 11.85 | Yes | No | | 22.22 | | | | Unknown | Copied IRC 2020 |

ASYMMETRIC SPINNAKER

| Id | SLU | SLE | SL | SHW | SFL | Ratio | Area | Measurer | Meas.Date | Maker | Material | Comment |
|----------|--------------|--------------|--------------|-------------|-------------|------------|--------------|----------|-----------|-------|----------------|---------|
| A | 15.08 | 12.26 | 13.67 | 8.58 | 8.90 | 96% | 98.47 | | | | Unknown | |