

| | | |
|--|----------------------------|--|
| BOAT Name ANDREA Sail Nr ESP-7174 | GPH 786,5 | HULL Length Overall 6,578m Maximum Beam 2,488m Displacement 1.530kg Draft 1,169m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0,320% Fwd Accommodation No Hull Construction Solid Carbon Rudder No Crew Arm Extension |
| GENERAL Class FIRST 235 Designer Builder BENETEAU Series 12/1986 Age 01/1989 Age Allowance 0,488% Offset File e153.off - 08/01/1994 18:29:00 Measurement by DEVESA/MORELL - 02/05/2006 | | IMSL 6,370m VCGD 0,191m Sink 8,71kg/mm RL 5,024m VCGM 0,135m WS 11,42m² LSM0 6,537m Displacement/Length ratio 5,4772 |



2016
ORC International
Certificate

Rating Office
R.F.E.V.
Luis de salazar,9
28002 Madrid



| | OFFSHORE COASTAL / LONG DISTANCE | | | INSHORE WINDWARD / LEEWARD | | |
|------------------|-------------------------------------|----------------------|--------------------|-------------------------------|----------------------|--------------------|
| | PLT | PLD | | PLT | PLD | |
| Time On Distance | 764,7 | | | 854,4 | | |
| Time On Time | 0,7846 | | | 0,7901 | | |
| Performance Line | 0,779 | 161,4 | | 0,692 | 227,5 | |
| Triple Number | Low 0,7485 | Medium 0,9693 | High 1,0855 | Low 0,5778 | Medium 0,7858 | High 0,8995 |

| TIME ALLOWANCES | | | | | | | |
|-----------------|---------------|---------------|---------------|--------------|--------------|--------------|--------------|
| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt |
| Beat VMG | 1387,2 | 1156,1 | 1027,0 | 942,1 | 910,1 | 901,5 | 912,1 |
| 52° | 892,7 | 752,4 | 673,1 | 636,5 | 621,4 | 616,8 | 617,0 |
| 60° | 835,4 | 706,6 | 645,1 | 617,3 | 601,3 | 595,0 | 594,4 |
| 75° | 788,7 | 672,5 | 625,7 | 600,9 | 580,1 | 562,7 | 551,1 |
| 90° | 775,7 | 654,1 | 609,4 | 582,3 | 566,8 | 554,1 | 520,6 |
| 110° | 774,2 | 653,4 | 609,1 | 577,6 | 545,3 | 517,9 | 492,0 |
| 120° | 803,6 | 669,5 | 617,0 | 586,0 | 554,7 | 524,4 | 474,4 |
| 135° | 888,9 | 727,1 | 642,7 | 605,7 | 575,6 | 544,9 | 490,3 |
| 150° | 1027,4 | 819,1 | 697,3 | 634,4 | 602,1 | 573,8 | 518,4 |
| Run VMG | 1186,3 | 942,9 | 799,5 | 699,1 | 638,4 | 605,6 | 550,5 |

| Selected Courses | | | | | | | |
|--------------------|---------------|---------------|--------------|--------------|--------------|--------------|--------------|
| Windward / Leeward | 1286,8 | 1049,5 | 913,3 | 820,6 | 774,2 | 753,6 | 731,3 |
| Circular Random | 1082,9 | 874,8 | 763,0 | 698,2 | 658,7 | 633,7 | 603,9 |
| Ocean for PCS | 1080,3 | 862,3 | 742,4 | 670,6 | 624,7 | 592,6 | 545,8 |
| Non Spinnaker | 1141,6 | 916,3 | 794,3 | 722,9 | 679,6 | 652,3 | 621,2 |

| 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 | 44,7° | 43,3° | 43,6° | 42,4° | 41,4° | 41,2° | 42,2° |
| Beat VMG | 2,60 | 3,11 | 3,51 | 3,82 | 3,96 | 3,99 | 3,95 |
| 52° | 4,03 | 4,78 | 5,35 | 5,66 | 5,79 | 5,84 | 5,83 |
| 60° | 4,31 | 5,09 | 5,58 | 5,83 | 5,99 | 6,05 | 6,06 |
| 75° | 4,56 | 5,35 | 5,75 | 5,99 | 6,21 | 6,40 | 6,53 |
| 90° | 4,64 | 5,50 | 5,91 | 6,18 | 6,35 | 6,50 | 6,91 |
| 110° | 4,65 | 5,51 | 5,91 | 6,23 | 6,60 | 6,95 | 7,32 |
| 120° | 4,48 | 5,38 | 5,83 | 6,14 | 6,49 | 6,86 | 7,59 |
| 135° | 4,05 | 4,95 | 5,60 | 5,94 | 6,25 | 6,61 | 7,34 |
| 150° | 3,50 | 4,39 | 5,16 | 5,67 | 5,98 | 6,27 | 6,94 |
| Run VMG | 3,03 | 3,82 | 4,50 | 5,15 | 5,64 | 5,94 | 6,54 |
| Gybe Angles | 148,9° | 153,5° | 156,7° | 180,0° | 180,0° | 180,0° | 180,0° |

Certificate
Number **717401**
ORC Ref **ESP00015877**
Issued On **04/02/2016**
VPP Ver. **2016 1.00**
Valid until **31/12/2016**

Crew Weight
Declared **260kg**
Default* **375kg**
Non Manual Pwr **No**

Special Scoring
ToD ToT
Double H.GPH **788,3 0,7611**
Double H.OSN **767,4 0,7818**
Non Spin GPH **819,6 0,7321**
Non Spin OSN **792,0 0,7575**
N/S Perf. Line **92,2 0,641**

Sails Limitations
Headsails **5** | Spinnakers **3**

Class Division Length
CDL = **5,697**

Storm Sails Areas
Heavy Weather Jib **10,53**
Storm Jib (JL=5,74) **3,90**
Storm Trysail **4,32**

Owner

| | |
|-----------------------|---------------------------------|
| BOAT | |
| Name ANDREA | Sail Nr ESP-7174 |
| File E7174.dxt | Data in meters/kilograms |

| | | |
|--|------------------|-----------------------|
| INCLINING TEST AND FREEBOARDS | | |
| Inclining Test Current Inclining | | |
| Flotation date 13/01/2012 | | SG 1,0270 |
| FFM 0,993 | FF 0,992 | SFFP 0,150 |
| FAM 0,800 | FA 0,801 | SAFP 6,310 |
| W1 22,000 | PD1 586,3 | WD 8,700 |
| W2 22,000 | PD2 586,6 | GSA 1,0 |
| W3 22,000 | PD3 587,1 | RSA 1,0 |
| W4 22,000 | PD4 587,3 | PLM 9000,0 |
| LCF from stem on CL / on sheer | | 3,719 / 3,895 |
| Maximum beam station from stem | | 4,745 |
| RM Measured | | 25,7kg·m |
| RM Default | | 27,6kg·m |
| Limit of positive stability / Stab.Index | | 106,5° / 100,5 |
| Freeboard at mast at 2,440 | | 0,891 |

| | | | |
|--------------------------------|----------------------------|-------------------|-----------------|
| RIG | | | |
| Forestay Tension Aft | Spreaders 1 | | |
| Inner Stay Fixed | Runners 0 | | |
| Carbon Mast No | Jumper Struts None | | |
| Taper Hollows No | Jib Furler No | | |
| Fiber Rigging No | Main Furler No | | |
| Lenticular Rigging No | Without Backstay No | | |
| Articulated Bowsprit No | | | |
| P 8,180 | E 3,020 | MDT1 0,087 | MW 0,119 |
| IG 8,830 | J 2,440 | MDL1 0,119 | GO 0,119 |
| ISP 8,955 | SFJ 0,000 | MDT2 0,087 | BD 0,090 |
| BAS 1,030 | SPL 2,410 | MDL2 0,119 | MWT |
| FSP 0,000 | TPS 2,440 | TL | MCG |



World Leader in Rating Technology


2016 Measurements Datasheet

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

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

Certificate

Number **717401**
 ORC Ref **ESP00015877**
 Issued On **04/02/2016**
 VPP Ver. **2016 1.00**
 Valid until **31/12/2016**



| | |
|-----------------|--|
| COMMENTS | |
| | |

| | |
|-------------------------|--|
| MOVEABLE BALLAST | |
| N/A | |

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

| SAILS (Maximum Areas) | | | | | | | | | |
|------------------------------|-------|------|------|------|------|-------|----------|--|--|
| Mainsail | MHB | MUW | MTW | MHW | MQW | Area | Area (r) | Formula | |
| | 0,150 | 0,65 | 1,17 | 2,04 | 2,65 | 15,21 | 15,61 | P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB) | |
| Symmetric | SLU | SLE | SL | SHW | SFL | | | | |
| | 8,53 | 8,53 | 8,53 | 4,34 | 4,29 | 30,78 | | SL · (SFL + 4·SHW) / 6 | |
| Asymmetric | SLU | SLE | SL | SHW | SFL | | | | |
| | 9,58 | 8,00 | 8,79 | 3,89 | 5,15 | 30,34 | | AS · (SFL + 4·SHW) / 6 | |

| 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 |
| 0,05 | 0,37 | 0,70 | 1,38 | 2,20 | 2,67 | 8,44 | 11,83 | Y | | | Unknow | |

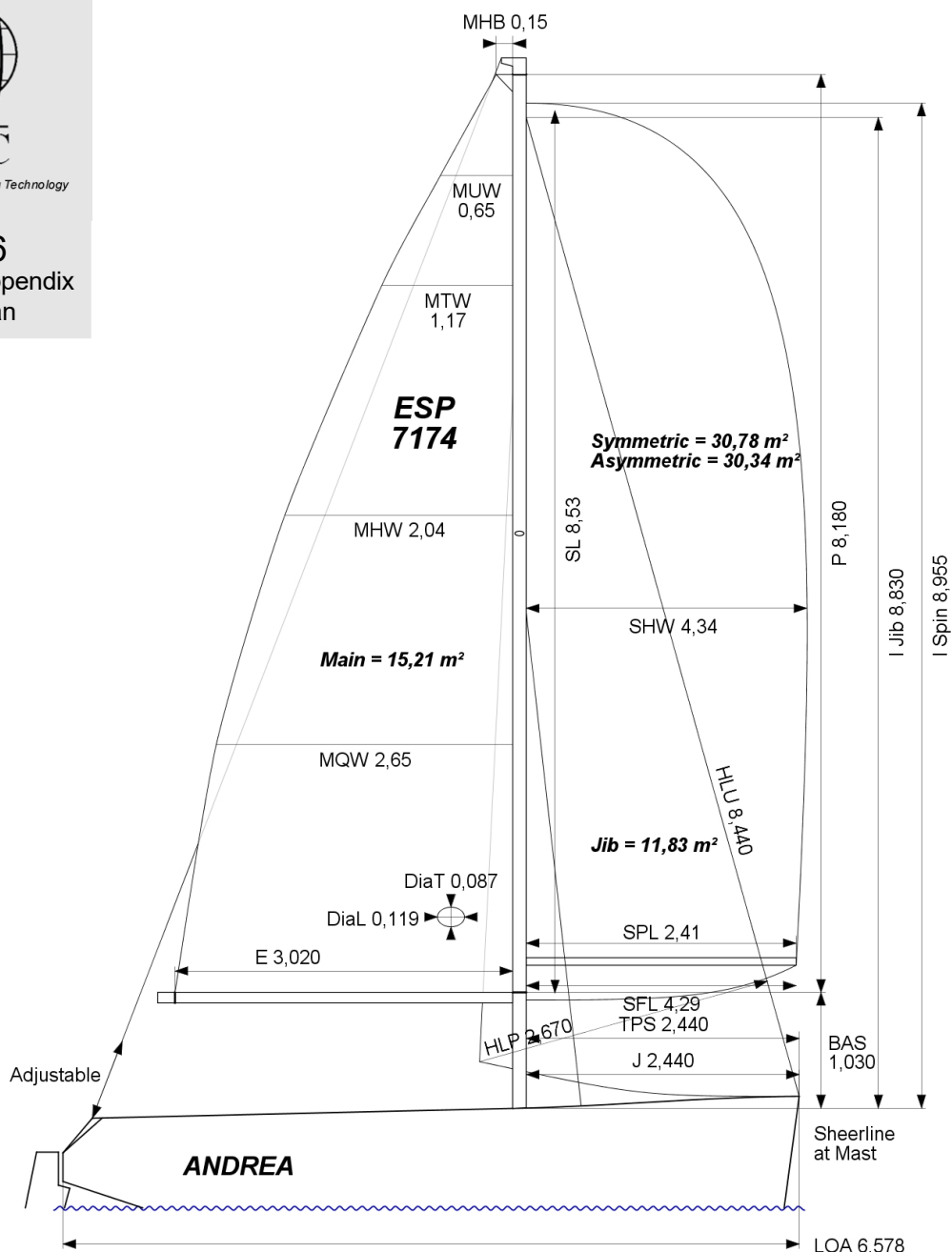
| MEASUREMENT INVENTORY | | | | |
|-----------------------------------|--------|--------------------|----------|-----------------|
| Measurer CGD/MGD/JJBeltran | | | | |
| Date 13/01/2012 | | | | |
| Comment | | | | |
| Id | Item | Weight | Distance | VCG Description |
| 1 | Tools | 2,0 | 5,44 | |
| Id | Item | Maker | Model | |
| 1 | Engine | 15cv FB | HONDA | |
| Id | Item | Weight Description | | |

| MEASUREMENT INVENTORY | | | | | | | |
|------------------------------|-----------|----------|-----------|-----------------|-------|-----|--------------------|
| Id | Item | Tank Use | Tank Type | Capcty | Dist. | VCG | Condtn Description |
| 1 | Tank fuel | | aluminio | 10,0 | 5,54 | | 0,0 v acio |
| Id | Item | Weight | Distance | VCG Description | | | |
| 1 | Battery | 2,0 | 4,44 | | | | |



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2016
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL

| Id | MHB | MUW | MTW | MHW | MQW | Area | Measurer | Meas.Date | Manufacture | Material | Comment |
|-----|-------|------|------|------|------|-------|----------|-----------|-------------|----------|---------|
| 001 | 0,150 | 0,65 | 1,17 | 2,04 | 2,65 | 15,21 | | | | Unknown | |

HEADSAILS

| Id | HHB | HUW | HTW | HHW | HQW | HLP | HLU | Ovrlp | Area | Btn | Fly | Measurer | Meas.Date | Manufacture | Material | Comment |
|-----|------|------|------|------|------|------|------|-------|-------|-----|-----|----------|-----------|-------------|----------|---------|
| 003 | 0,05 | 0,37 | 0,70 | 1,38 | 2,20 | 2,67 | 8,44 | 109% | 11,83 | Y | | E759 | | | Unknown | |

SYMMETRIC SPINNAKERS

| Id | SLU | SLE | SL | SHW | SFL | Area | Measurer | Meas.Date | Manufacture | Material | Comment |
|-----|------|------|------|------|------|-------|----------|-----------|-------------|----------|---------|
| 001 | 8,53 | 8,53 | 8,53 | 4,34 | 4,29 | 30,78 | | | | | |

ASYMMETRIC SPINNAKERS

| Id | SLU | SLE | SL | SHW | SFL | Area | Kind | Measurer | Meas.Date | Manufacture | Material | Comment |
|-----|------|------|------|------|------|-------|------|----------|-----------|-------------|----------|---------|
| 001 | 9,58 | 8,00 | 8,79 | 3,89 | 5,15 | 30,34 | asym | jbeltran | | | Unknown | |