

| | | |
|--|----------------------------|--|
| BOAT Name FORTE Sail Nr EST 475 | GPH 578,4 | HULL Length Overall 12,350m Maximum Beam 3,646m Displacement 6 895kg Draft 2,498m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0,062% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder No Crew Arm Extension |
| GENERAL Class X-41 Designer JEPPESEN Builder X YACHTS Series 01.2006 Age 05.2007 Age Allowance 0,357% Offset File X41.OFF - 15.03.2007 2:30:02 Measurement by Tetsmann - 17.04.2016 | | IMSL 11,114m VCGD -0,050m Sink 23,10kg/mm RL 10,000m VCGM -0,070m WS 30,86m² LSMO 11,017m Displacement/Length ratio 5,1564 |



2017
ORC International
Certificate

Rating Office
EYU
Regati 1
11911, Tallinn
Estonia

| | COASTAL / LONG DISTANCE | | | WINDWARD / LEEWARD | | |
|------------------|-------------------------|---------------|---------------|--------------------|---------------|---------------|
| | Low | Medium | High | Low | Medium | High |
| Time On Distance | 562,4 | | | 629,8 | | |
| Time On Time | 1,0669 | | | 1,0718 | | |
| Triple Number | Low | Medium | High | Low | Medium | High |
| Time on Distance | 666,3 | 511,6 | 453,3 | 865,6 | 632,9 | 545,7 |
| Time on Time | 1,0131 | 1,3194 | 1,4892 | 0,7798 | 1,0666 | 1,2370 |

| Wind Velocity | TIME ALLOWANCES | | | | | | |
|---------------|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt |
| Beat VMG | 982,6 | 811,5 | 710,7 | 667,8 | 649,3 | 639,2 | 624,1 |
| 52° | 640,2 | 535,1 | 482,4 | 464,9 | 458,0 | 454,4 | 447,1 |
| 60° | 601,4 | 507,8 | 467,9 | 451,5 | 444,5 | 440,4 | 433,6 |
| 75° | 570,1 | 489,1 | 457,6 | 438,1 | 423,8 | 416,1 | 409,4 |
| 90° | 571,8 | 488,9 | 456,9 | 437,0 | 417,9 | 400,0 | 381,2 |
| 110° | 594,5 | 489,3 | 449,6 | 424,0 | 408,8 | 395,4 | 375,0 |
| 120° | 611,3 | 500,3 | 455,7 | 428,8 | 401,2 | 381,3 | 357,7 |
| 135° | 677,3 | 546,1 | 478,7 | 448,1 | 423,4 | 397,7 | 345,6 |
| 150° | 805,7 | 639,1 | 538,7 | 479,2 | 450,0 | 427,0 | 380,2 |
| Run VMG | 930,4 | 738,0 | 622,0 | 547,8 | 499,6 | 463,3 | 417,7 |

Certificate
Number **EST475**
ORC Ref **EST00001535**
Issued On **26.07.2017**
VPP Ver. **2017 1.00**
Valid until **31.12.2017**

Crew Weight
Declared **870kg**
Default* **790kg**
Non Manual Pwr **No**

Special Scoring

| | ToD | ToT |
|--------------|--------------|---------------|
| Double H.GPH | 582,8 | 1,0296 |
| Double H.OSN | 567,9 | 1,0565 |
| Non Spin GPH | 609,6 | 0,9843 |
| Non Spin OSN | 593,0 | 1,0117 |

| Selected Courses | | | | | | | |
|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Windward / Leeward | 956,5 | 774,8 | 666,3 | 607,8 | 574,4 | 551,3 | 520,9 |
| Circular Random | 799,3 | 644,2 | 561,0 | 512,6 | 482,5 | 462,2 | 435,2 |
| Ocean for PCS | 981,8 | 756,8 | 630,0 | 552,4 | 501,9 | 466,5 | 416,9 |
| Non Spinnaker | 854,9 | 683,8 | 590,5 | 535,4 | 500,8 | 477,8 | 447,7 |

Sails Limitations

| Headsails | Spinnakers |
|-----------|------------|
| 6 | 4 |

| 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 | 43,3° | 42,1° | 41,4° | 39,5° | 39,1° | 38,5° | 38,1° |
| Beat VMG | 3,66 | 4,44 | 5,07 | 5,39 | 5,54 | 5,63 | 5,77 |
| 52° | 5,62 | 6,73 | 7,46 | 7,74 | 7,86 | 7,92 | 8,05 |
| 60° | 5,99 | 7,09 | 7,69 | 7,97 | 8,10 | 8,17 | 8,30 |
| 75° | 6,31 | 7,36 | 7,87 | 8,22 | 8,50 | 8,65 | 8,79 |
| 90° | 6,30 | 7,36 | 7,88 | 8,24 | 8,61 | 9,00 | 9,44 |
| 110° | 6,06 | 7,36 | 8,01 | 8,49 | 8,81 | 9,10 | 9,60 |
| 120° | 5,89 | 7,20 | 7,90 | 8,40 | 8,97 | 9,44 | 10,06 |
| 135° | 5,32 | 6,59 | 7,52 | 8,03 | 8,50 | 9,05 | 10,42 |
| 150° | 4,47 | 5,63 | 6,68 | 7,51 | 8,00 | 8,43 | 9,47 |
| Run VMG | 3,87 | 4,88 | 5,79 | 6,57 | 7,21 | 7,77 | 8,62 |
| Gybe Angles | 141,8° | 147,7° | 149,9° | 155,4° | 168,5° | 180,0° | 180,0° |

Class Division Length
CDL = **10,558**

Storm Sails Areas

| | |
|----------------------|--------------|
| Heavy Weather Jib | 39,55 |
| Storm Jib (JL=11,13) | 14,65 |
| Storm Trysail | 14,23 |

| | |
|---------------------|---------------------------------|
| BOAT | |
| Name FORTE | Sail Nr EST 475 |
| File Est0475 | Data in meters/kilograms |

| | | |
|--|------------------|-----------------------|
| INCLINING TEST AND FREEBOARDS | | |
| Inclining Test Current Inclining | | |
| Flotation date 31.08.2015 | SG | 1,0000 |
| FFM 1,445 | FF 1,455 | SFFP 0,200 |
| FAM 1,080 | FA 1,087 | SAFP 11,995 |
| W1 103,2 | PD1 225,0 | WD 11,900 |
| W2 103,2 | PD2 224,0 | GSA 12,6 |
| W3 103,2 | PD3 224,0 | RSA 4298,7 |
| W4 103,2 | PD4 224,0 | PLM 2005,0 |
| LCF from stem on CL / on sheer | | 6,949 / 7,157 |
| Maximum beam station from stem | | 8,432 |
| RM Measured | | 191,6kg·m |
| RM Default | | 199,8kg·m |
| Limit of positive stability / Stab.Index | | 122,9° / 126,4 |
| Freeboard at mast at 5,195 | | 1,212 |



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| | | | | |
|--------------------------------|----------------------------|-------------------|-------------------|--|
| RIG | | | | |
| Forestay Tension Aft | Spreaders 2 | | | |
| Inner Stay None Fitted | Runners 0 | | | |
| Carbon Mast Yes | 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 16,040 | E 5,070 | MDT1 0,131 | MW 0,251 | |
| IG 17,030 | J 4,910 | MDL1 0,251 | GO 0,276 | |
| ISP 17,070 | SFJ 0,285 | MDT2 0,122 | BD 0,270 | |
| BAS 1,865 | SPL 5,165 | MDL2 0,190 | MWT 204,00 | |
| FSP 0,072 | TPS | TL 0,790 | MCG 5,810 | |

| | |
|--------------------|--------------------|
| Certificate | |
| Number | EST475 |
| ORC Ref | EST00001535 |
| Issued On | 26.07.2017 |
| VPP Ver. | 2017 1.00 |
| Valid until | 31.12.2017 |

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

| | | |
|------------------------------|------------------|------------------|
| PROPELLER | | |
| Installation Strut | PRD | 0,430 |
| Type Folding 2 blades | PBW | 0,125 |
| Twin Screw No | PIPA | 0,0032 |
| ST1 0,060 | ST3 | ST5 0,325 |
| ST2 | ST4 0,092 | EDL 1,540 |

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

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

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

| | | | | | | | | | |
|------------------------------|---------------|-------|-------|------|------|--------|----------|--|--|
| SAILS (Maximum Areas) | | | | | | | | | |
| Mainsail | MHB | MUW | MTW | MHW | MQW | Area | Area (r) | Formula | |
| | 0,210 | 1,11 | 1,92 | 3,25 | 4,19 | 48,21 | 48,99 | P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB) | |
| Symmetric | SLU | SLE | SL | SHW | SFL | | | | |
| | 16,87 | 16,87 | 16,87 | 9,09 | 8,70 | 126,69 | | SL · (SFL + 4·SHW) / 6 | |
| Asymmetric | Not Available | | | | | | | | |

| | | | | | | | | | | | | |
|---|------|------|------|------|------|-------|-------|-----|-----|-----------|----------|-------------|
| 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 |
| 0,12 | 0,76 | 1,42 | 2,70 | 3,97 | 5,24 | 17,05 | 45,77 | Y | | | Unknow | 2015 medium |
| 0,11 | 0,76 | 1,43 | 2,72 | 4,00 | 5,23 | 16,90 | 45,55 | Y | | | Unknow | 2014 light |
| 0,09 | 0,56 | 1,08 | 2,19 | 3,40 | 4,70 | 16,49 | 37,47 | Y | | | Unknow | G3,5 |

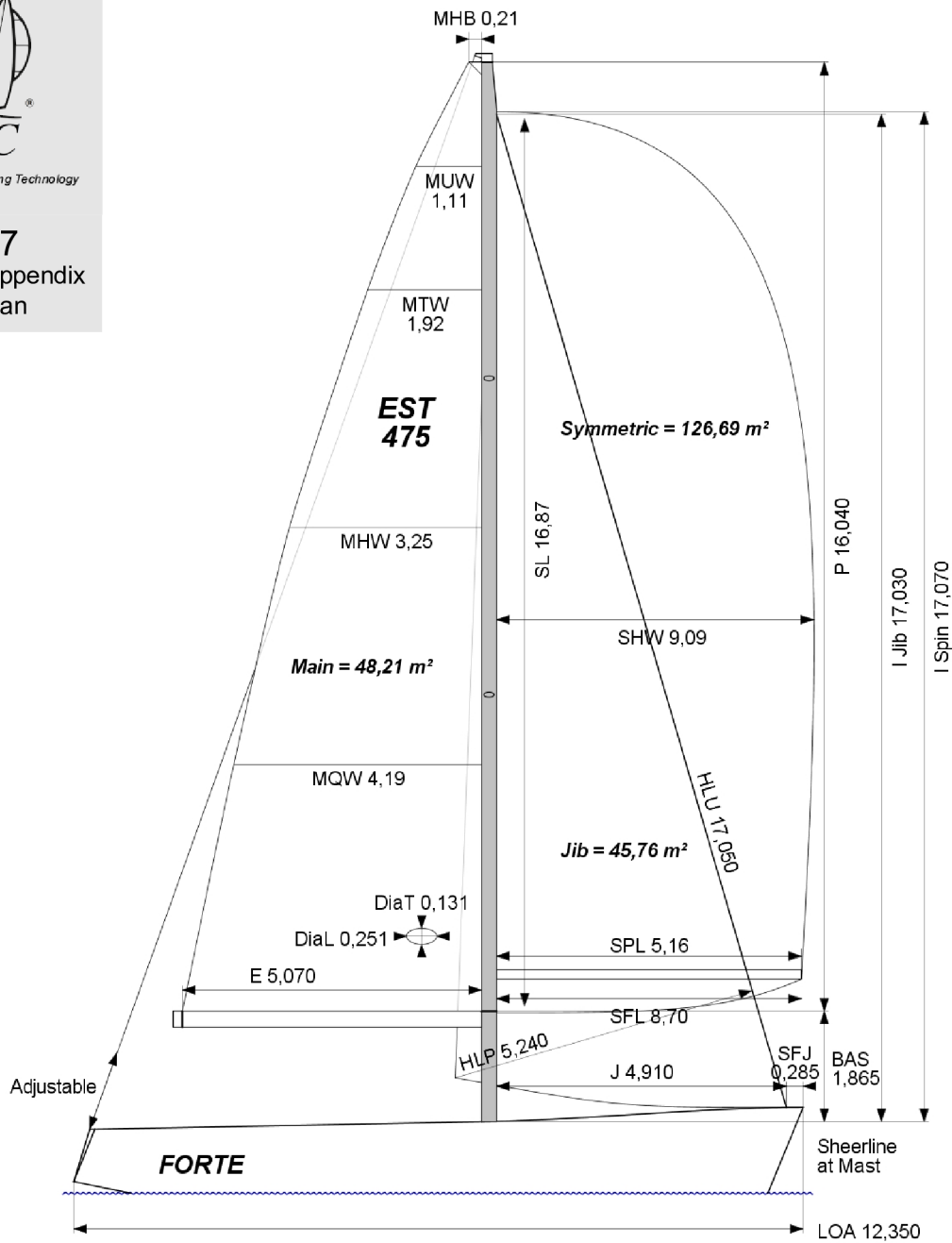
| | | | | |
|--------------------------------|-------------|---------------------------|-----------------|------------------------|
| MEASUREMENT INVENTORY | | | | |
| Measurer Tetsmann EST 1 | | | | |
| Date 31.08.2015 | | | | |
| Comment | | | | |
| <i>Id</i> | <i>Item</i> | <i>Weight</i> | <i>Distance</i> | <i>VCG Description</i> |
| <i>Id</i> | <i>Item</i> | <i>Maker</i> | <i>Model</i> | |
| 1 | Engine | Volvo-Penta | D2 (29 kW) | |
| <i>Id</i> | <i>Item</i> | <i>Weight Description</i> | | |

| | | | | | | | | |
|------------------------------|-------------|-----------------|------------------|------------------------|--------------|------------|---------------|--------------------|
| MEASUREMENT INVENTORY | | | | | | | | |
| <i>Id</i> | <i>Item</i> | <i>Tank Use</i> | <i>Tank Type</i> | <i>Capcty</i> | <i>Dist.</i> | <i>VCG</i> | <i>Condtn</i> | <i>Description</i> |
| 1 | Tank Fuel | | metal | 90,0 | 7,00 | | 5,0 | |
| 2 | Tank Water | | plastic | 180,0 | 6,00 | | 0,0 | |
| 3 | Tank Waste | | metal | 15,0 | 4,00 | | 0,0 | |
| 4 | Tank Boiler | | metal | 15,0 | 10,00 | | 0,0 | |
| <i>Id</i> | <i>Item</i> | <i>Weight</i> | <i>Distance</i> | <i>VCG Description</i> | | | | |
| 1 | Battery | 25,0 | 8,00 | Engine battery | | | | |
| 2 | Battery | 120,0 | 5,00 | Service batteries | | | | |



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Certificate Appendix
Sail Plan



| SAILS INVENTORY | | | | | | | | | | | | | | | | |
|---------------------------|-------|-------|-------|------|------|--------|----------|------------|-------------|-------------|--------------|----------|-----------|-------------|----------|-------------|
| MAINSAIL (1) | | | | | | | | | | | | | | | | |
| Id | MHB | MUW | MTW | MHW | MQW | Area | Measurer | Meas.Date | Manufacture | Material | Comment | | | | | |
| 4 | 0,210 | 1,11 | 1,92 | 3,25 | 4,19 | 48,21 | | | | Unknown | P16,04;E5,07 | | | | | |
| HEADSAILS (3) | | | | | | | | | | | | | | | | |
| Id | HHB | HUW | HTW | HHW | HQW | HLP | HLU | Ovrlp | Area | Btn | Fly | Measurer | Meas.Date | Manufacture | Material | Comment |
| 9 | 0,12 | 0,76 | 1,42 | 2,70 | 3,97 | 5,24 | 17,05 | 107% | 45,77 | Y | | | | | Unknown | 2015 medium |
| 8 | 0,11 | 0,76 | 1,43 | 2,72 | 4,00 | 5,23 | 16,90 | 107% | 45,55 | Y | | | | | Unknown | 2014 light |
| 5 | 0,09 | 0,56 | 1,08 | 2,19 | 3,40 | 4,70 | 16,49 | 96% | 37,47 | Y | D206 | | | | Unknown | G3,5 |
| SYMMETRIC SPINNAKERS (3) | | | | | | | | | | | | | | | | |
| Id | SLU | SLE | SL | SHW | SFL | Area | Measurer | Meas.Date | Manufacture | Material | Comment | | | | | |
| 6 | 16,87 | 16,87 | 16,87 | 9,09 | 8,70 | 126,69 | | | | Unknown | runner 2015 | | | | | |
| 7 | 16,92 | 16,92 | 16,92 | 9,00 | 8,70 | 126,05 | | | | Unknown | heavy S4 | | | | | |
| 3 | 16,94 | 16,94 | 16,94 | 8,63 | 8,70 | 122,02 | EST 2 | 01.07.2011 | | Unknown | reacher | | | | | |
| ASYMMETRIC SPINNAKERS (0) | | | | | | | | | | | | | | | | |
| Id | SLU | SLE | SL | SHW | SFL | Area | Kind | Measurer | Meas.Date | Manufacture | Material | Comment | | | | |