

| | | |
|---|----------------------------|--|
| BOAT Name Cherie Sail Nr EST 633 | GPH 626.1 | HULL Length Overall 10.660m Maximum Beam 3.636m Displacement 5,631kg Draft 2.202m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.193% Fwd Accommodation Yes Hull Construction Solid Carbon Rudder No Crew Arm Extension |
| GENERAL Class First 35 Designer Farr Builder Beneteau Series 08/2009 Age 04/2010 Age Allowance 0.325% Offset File F242.OFF - 9/22/2009 5:09:52 PM Measurement by A.Tetsmann/V.Rosme - 08/05/2017 | | IMSL 9.716m VCGD 0.046m Sink 19.32kg/mm RL 8.576m VCGM 0.045m WS 26.12m² LSMO 9.544m Displacement/Length ratio 6.4773 |



2019
ORC International
Certificate

Rating Office
EYU
Purje 8
11911, Tallinn
Estonia

| SCORING OPTIONS | | | | | | |
|------------------------|--------------------------------|---------------|---------------|---------------------------|---------------|---------------|
| | COASTAL / LONG DISTANCE | | | WINDWARD / LEEWARD | | |
| Time on Distance | 607.9 | | | 678.2 | | |
| Time on Time | 0.9871 | | | 0.9953 | | |
| Triple Number | Low | Medium | High | Low | Medium | High |
| Time on Distance | 719.4 | 553.8 | 494.8 | 929.4 | 680.9 | 591.5 |
| Time on Time | 0.9383 | 1.2189 | 1.3643 | 0.7263 | 0.9914 | 1.1411 |

| TIME ALLOWANCES | | | | | | | |
|------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Wind Velocity | 6 kt | 8 kt | 10 kt | 12 kt | 14 kt | 16 kt | 20 kt |
| Beat VMG | 1061.1 | 877.7 | 772.0 | 721.1 | 704.9 | 699.4 | 688.6 |
| 52° | 694.1 | 585.8 | 528.7 | 505.9 | 497.8 | 494.5 | 490.2 |
| 60° | 656.1 | 558.5 | 513.5 | 493.8 | 484.4 | 480.6 | 477.6 |
| 75° | 628.1 | 539.2 | 502.5 | 483.2 | 469.4 | 459.8 | 452.7 |
| 90° | 635.8 | 533.0 | 491.8 | 471.5 | 461.1 | 448.3 | 425.7 |
| 110° | 634.5 | 527.0 | 486.3 | 462.0 | 440.9 | 421.4 | 400.5 |
| 120° | 654.0 | 538.4 | 491.4 | 465.5 | 441.4 | 419.0 | 382.0 |
| 135° | 724.0 | 588.2 | 515.1 | 482.6 | 458.7 | 434.6 | 389.5 |
| 150° | 858.9 | 681.6 | 576.0 | 513.7 | 483.5 | 461.1 | 417.1 |
| Run VMG | 991.8 | 787.1 | 664.6 | 585.0 | 530.3 | 494.0 | 449.5 |

Certificate
Number **EST633**
ORC Ref **EST00000450**
Issued On **4/20/2019**
VPP Ver. **2019 1.01**
Valid until **12/31/2019**

Crew Weight
Default **644kg**
Maximum **645kg**
Minimum* **484kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

| | | |
|--------------|--------------|---------------|
| | ToD | ToT |
| Double H.GPH | 635.3 | 0.9445 |
| Double H.OSN | 618.8 | 0.9697 |
| Non Spin GPH | 660.2 | 0.9088 |
| Non Spin OSN | 639.4 | 0.9384 |

| Selected Courses | | | | | | | |
|-------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Windward / Leeward | 1026.5 | 832.4 | 718.3 | 653.0 | 617.6 | 596.7 | 569.0 |
| Circular Random | 863.3 | 696.5 | 607.3 | 555.8 | 524.5 | 504.0 | 477.4 |
| Coastal / Long Distance | 1023.0 | 781.5 | 648.0 | 572.2 | 534.7 | 505.6 | 455.6 |
| Non Spinnaker | 924.6 | 739.7 | 639.3 | 580.6 | 544.6 | 521.4 | 492.6 |

Sails Limitations

| | |
|-----------|------------|
| Headsails | Spinnakers |
| 5 | 3 |

| 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 | 42.7° | 41.0° | 40.3° | 39.0° | 38.5° | 38.5° | 38.9° |
| Beat VMG | 3.39 | 4.10 | 4.66 | 4.99 | 5.11 | 5.15 | 5.23 |
| 52° | 5.19 | 6.14 | 6.81 | 7.12 | 7.23 | 7.28 | 7.34 |
| 60° | 5.49 | 6.45 | 7.01 | 7.29 | 7.43 | 7.49 | 7.54 |
| 75° | 5.73 | 6.68 | 7.16 | 7.45 | 7.67 | 7.83 | 7.95 |
| 90° | 5.66 | 6.75 | 7.32 | 7.64 | 7.81 | 8.03 | 8.46 |
| 110° | 5.67 | 6.83 | 7.40 | 7.79 | 8.16 | 8.54 | 8.99 |
| 120° | 5.50 | 6.69 | 7.33 | 7.73 | 8.16 | 8.59 | 9.42 |
| 135° | 4.97 | 6.12 | 6.99 | 7.46 | 7.85 | 8.28 | 9.24 |
| 150° | 4.19 | 5.28 | 6.25 | 7.01 | 7.45 | 7.81 | 8.63 |
| Run VMG | 3.63 | 4.57 | 5.42 | 6.15 | 6.79 | 7.29 | 8.01 |
| Gybe Angles | 144.8° | 149.3° | 151.0° | 157.0° | 175.1° | 180.0° | 180.0° |

Class Division Length
CDL = **9.146**

Storm Sails Areas

| | |
|---------------------|--------------|
| Heavy Weather Jib | 28.18 |
| Storm Jib (JL=9.40) | 10.44 |
| Storm Trysail | 11.49 |

Owner
OÜ Tule Purjetama
Kalda 18, Kloogaranna
Harjumaa, Estonia
ESS Kalev JK

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

| | |
|---------------------|---------------------------------|
| BOAT | |
| Name Cherie | Sail Nr EST 633 |
| File Est0633 | Data in meters/kilograms |

| | | | |
|--|------------------|-----------------------|--|
| INCLINING TEST AND FREEBOARDS | | | |
| Inclining Test Current Inclining | | | |
| Flotation date 06/05/2010 | | SG 1.0020 | |
| FFM 1.396 | FF 1.409 | SFFP 0.422 | |
| FAM 1.072 | FA 1.076 | SAFP 10.320 | |
| W1 80.0 | PD1 501.3 | WD 9.990 | |
| W2 80.0 | PD2 501.7 | GSA 1.0 | |
| W3 80.0 | PD3 500.2 | RSA 1.0 | |
| W4 80.0 | PD4 498.6 | PLM 9000.0 | |
| LCF from stem on CL / on sheer | | 5.852 / 6.108 | |
| Maximum beam station from stem | | 6.761 | |
| RM Measured | | 125.8kg·m | |
| RM Default | | 134.0kg·m | |
| Limit of positive stability / Stab.Index | | 121.3° / 121.2 | |
| Freeboard at mast at 3.980 | | 1.280 | |



2019
IMS Measurement Certificate

| | | | |
|--------------------------------|----------------------------|-------------------|-------------------|
| 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 13.880 | E 4.730 | MDT1 0.100 | MW 0.180 |
| IG 14.392 | J 3.980 | MDL1 0.195 | GO 0.195 |
| ISP 14.422 | SFJ 0.000 | MDT2 0.090 | BD |
| BAS 1.572 | SPL 4.190 | MDL2 0.145 | MWT 124.00 |
| FSP 0.066 | TPS 4.580 | TL 0.780 | MCG 4.080 |

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

| | | | |
|------------------------------|--------------------|------------------|--|
| PROPELLER | | | |
| Installation Strut | PRD 0.434 | | |
| Type Folding 2 blades | PBW | | |
| Twin Screw No | PIPA 0.0030 | | |
| ST1 0.035 | ST3 0.180 | ST5 0.280 | |
| ST2 0.180 | ST4 0.100 | EDL 2.030 | |

| | |
|-------------------------------|--|
| Certificate | |
| Number EST633 | |
| ORC Ref EST00000450 | |
| Issued On 4/20/2019 | |
| VPP Ver. 2019 1.01 | |
| Valid until 12/31/2019 | |

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

| | |
|------------------------|--|
| MOVABLE BALLAST | |
| N/A | |

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

| SAILS (Maximum Areas) | | | | | | | | | |
|------------------------------|-------|-------|-------|------|------|----------|----------|---|--|
| Mainsail | MHB | MUW | MTW | MHW | MQW | Area | Area (r) | Formula | |
| | 0.270 | 1.03 | 1.79 | 3.06 | 3.99 | 39.35 | 40.12 | P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB) | |
| Symmetric | SLU | SLE | SL | SHW | SFL | | | SL · (SFL + 4·SHW) / 6 | |
| | 14.30 | 14.30 | 14.30 | 7.57 | 7.50 | 90.04 | | | |
| Asymmetric | SLU | SLE | SL | SHW | SFL | Area (r) | | AS · (SFL + 4·SHW) / 6 | |
| | 14.23 | 13.23 | 13.73 | 5.06 | 6.68 | 61.60 | 71.46 | | |

| 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 |
| 0.10 | 0.66 | 1.24 | 2.24 | 3.22 | 4.18 | 14.18 | 31.16 | | | 01/05/2018 | Unknow | Light |

| MEASUREMENT INVENTORY | | | | |
|-----------------------------------|--------|--------------------|----------|-----------------|
| Measurer Veiko Rosme EST 2 | | | | |
| Date 06/05/2010 | | | | |
| Comment | | | | |
| Id | Item | Weight | Distance | VCG Description |
| + | Anchor | 42.0 | | center-area |
| + | Tools | 40.0 | 5.90 | starboard |
| Id | Item | Maker | Model | |
| 1 | Engine | YANMAR | 3YM30 | |
| Id | Item | Weight Description | | |

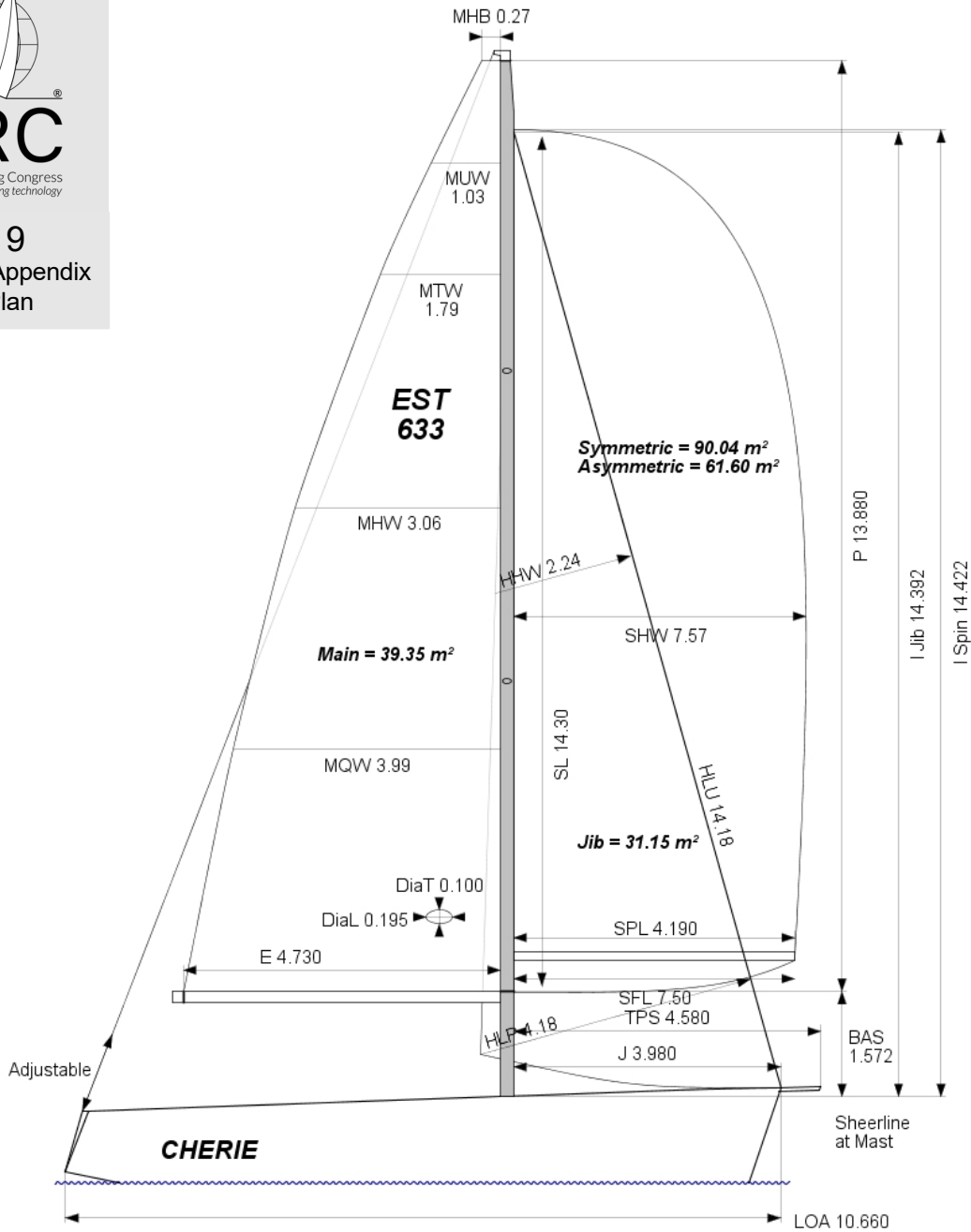
| MEASUREMENT INVENTORY | | | | | | | |
|------------------------------|---------|----------|-----------|----------------------------------|-------|-----|-------------------|
| Id | Item | Tank Use | Tank Type | Capcty | Dist. | VCG | Condn Description |
| 1 | Tank | Water | plastic | 100.0 | 4.60 | | 0-0 portside |
| 2 | Tank | Water | plastic | 100.0 | 4.60 | | 0-0 starboard |
| 3 | Tank | Fuel | plastic | 75.0 | 8.65 | | 0-0 center |
| 4 | Tank | Waste | plastic | 80.0 | 8.50 | | 0-0 starboard |
| Id | Item | Weight | Distance | VCG Description | | | |
| 1 | Battery | | 8.20 | 90 Ah portside | | | |
| 2 | Battery | | 6.60 | 70 Ah engine room | | | |
| 1 | Misc | | 4.50 | Water Heater Nautic Boiler 25 LI | | | |



ORC

Offshore Racing Congress
World leader in rating technology

2019
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (1)

| Id | MHB | MUW | MTW | MHW | MQW | Area | Measurer | Meas.Date | Manufacture | Material | Comment |
|----|------|------|------|------|------|-------|----------|------------|-------------|----------|---------|
| 4a | 0.27 | 1.03 | 1.79 | 3.06 | 3.99 | 39.35 | EST 7 | 01/05/2018 | NorthSails | Unknown | |

HEADSAILS (1)

| Id | HHB | HUW | HTW | HHW | HQW | HLP | HLU | Ovrlp | Area | Btn | Fly | Measurer | Meas.Date | Manufacture | Material | Comment |
|----|------|------|------|------|------|------|-------|-------|-------|-----|-----|----------|------------|-------------|----------|---------|
| 6a | 0.10 | 0.66 | 1.24 | 2.24 | 3.22 | 4.18 | 14.18 | 105% | 31.16 | | | EST 7 | 01/05/2018 | NorthSails | Unknow | Light |

SYMMETRIC SPINNAKERS (5)

| Id | SLU | SLE | SL | SHW | SFL | Area | Measurer | Meas.Date | Manufacture | Material | Comment |
|----|-------|-------|-------|------|------|-------|----------|------------|-------------|----------|---------|
| 5 | 14.30 | 14.30 | 14.30 | 7.57 | 7.50 | 90.05 | Hemamali | 06/11/2017 | | Unknown | light |
| 3 | 14.24 | 14.24 | 14.24 | 7.55 | 7.47 | 89.41 | EST 2 | 09/05/2011 | North | Unknown | valge |
| 2 | 14.30 | 14.30 | 14.30 | 7.50 | 7.50 | 89.38 | | 11/02/2010 | North | Unknown | S4 |
| 1 | 14.30 | 14.30 | 14.30 | 7.50 | 7.50 | 89.38 | | 11/02/2010 | North | Unknown | S2 |
| 4 | 14.30 | 14.30 | 14.30 | 7.44 | 7.32 | 88.38 | EST 1 | 29/05/2013 | | Unknown | |

ASYMMETRIC SPINNAKERS (1)

| Id | SLU | SLE | SL | SHW | SFL | Area | Kind | Measurer | Meas.Date | Manufacture | Material | Comment |
|----|-------|-------|-------|------|------|-------|------|----------|------------|-------------|----------|---------|
| 1 | 14.23 | 13.23 | 13.73 | 5.06 | 6.68 | 61.61 | asym | Hemamali | 30/11/2018 | | Unknown | A5 |