



ORC

Offshore Racing Congress
World leader in rating technology

**2019
ORC Club
Certificate**

Rating Office

EYU
Purje 8
11911, Tallinn
Estonia

Certificate

Number **EST345**
Issued On **4/20/2019**
ORC Ref **EST00000451**
VPP Ver. **2019 1.01**
Valid until **12/31/2019**

Crew Weight

Default 648kg
Maximum **650kg**
Minimum* **488kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	651.4	0.9210
Double H.OSN	633.4	0.9472
Non Spin GPH	673.9	0.8903
Non Spin OSN	652.7	0.9193

Sails Limitations

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

Spinnaker configuration

Symmetric: **Yes** **87.97**
Asymmetric: **Yes** **72.22**
Flying H/S: **No**
Spin. Pole: **Yes**

Class Division Length

CDL = 8.962

Stability (Measured)

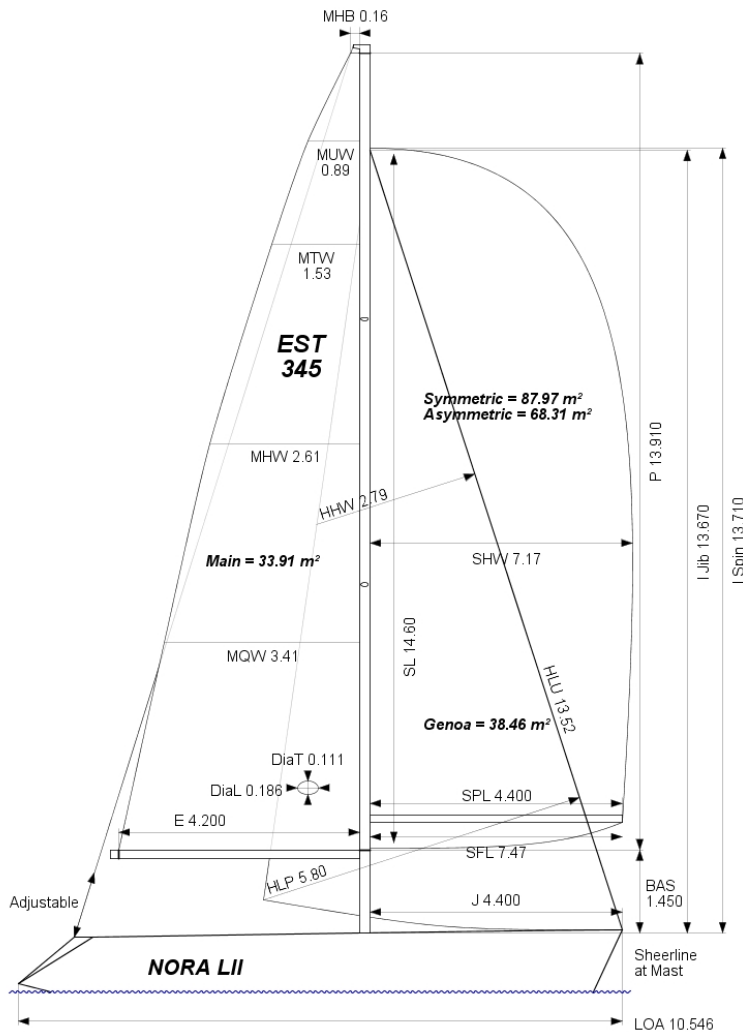
Limit Positive Stab.: **116.5°**
Stability Index: **119.6**

Owner

Ülar Jänes
Henno 8a-2, Pärnu
Estonia
PJK

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

Signature



BOAT		GPH		HULL		
Name	NORA LII			Data File	Est0345	
Sail Nr	EST 345			Offset File	EST220.BOF	
		643.9		Displacement	6,513kg	
				LOA	10.546m	
				MB	3.624m	
				Draft	2.023m	
CLASS				IMS Division	Cruiser/Racer	
Class	Ridas 35			Dynamic All.	0.325%	
Designer	Lönngren/Ridas			Fwd Accom.	Yes	
Builder	Ridas Jaht			Construction	Solid	
Series	06/1997			Fiber Rigging	No	
Age Date	04/2003			Aramid Core	No	
Age Allowance	0.487%			Carbon Rudder	No	
				Light Stanchions		
				IMSL	9.587m	
				VCGD	0.057m	
				Sink	19.22kg/mm	
				RL	8.335m	
				VCGM	-0.024m	
				WS	26.23m²	
				LSM0	9.582m	
				Displacement/Length ratio	7.4031	
COMMENTS				Water Ballast	0	
				Trim Tab	No	
				BLR Index	0.0000	
PROPELLER				CENTERBOARD		
Installation	Strut	PRD	0.400			
Type	Folding 2 blades	PIPA	0.0030	N/A		
SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	625.1			693.3		
Time on Time	0.9599			0.9736		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	741.1	569.7	506.8	956.2	699.6	599.5
Time on Time	0.9108	1.1848	1.3320	0.7059	0.9648	1.1259

BOAT	
Name NORA LII	Sail Nr EST 345
File Est0345	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 10/06/2008		SG 1.0020	
FFM 1.074	FF 1.092	SFFP 0.550	
FAM 0.948	FA 0.960	SAFP 9.246	
W1 65.6	PD1 209.0	WD 12.000	
W2 65.6	PD2 207.0	GSA 12.6	
W3 65.6	PD3 209.0	RSA 4298.7	
W4 65.6	PD4 207.0	PLM 2005.0	
LCF from stem on CL / on sheer		5.675 / 5.947	
Maximum beam station from stem		6.694	
RM Measured		132.4kg·m	
RM Default		123.8kg·m	
Limit of positive stability / Stab.Index		116.5° / 119.6	
Freeboard at mast at 4.400		1.024	



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Measurements
Datasheet

RIG			
Forestay Tension Aft	Spreaders 2		
Inner Stay None Fitted	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 13.910	E 4.200	MDT1 0.111	MW 0.186
IG 13.670	J 4.400	MDL1 0.186	GO 0.210
ISP 13.710	SFJ 0.000	MDT2 0.111	BD
BAS 1.450	SPL 4.400	MDL2 0.186	MWT 140.00
FSP 0.070	TPS	TL	MCG 5.180

MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.400		
Type Folding 2 blades	PBW		
Twin Screw No	PIPA 0.0030		
ST1 0.058	ST3	ST5 0.213	
ST2	ST4 0.098	EDL 1.900	

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COMMENTS	

MOVABLE BALLAST	
N/A	

CENTERBOARD	
N/A	

SAILS INVENTORY																
MAINSAIL (1)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
1	0.16	0.89	1.53	2.61	3.41	33.92	EST 1	10/07/2015		Unknown						
HEADSAILS (3)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
N1	0.08	0.70	1.38	2.79	4.26	5.80	13.52	132%	38.47						Unknown	
N2	0.13	0.83	1.53	2.59	3.54	4.40	14.00	100%	34.35						Unknown	
N3	0.12	0.74	1.36	2.40	3.41	4.41	14.00	100%	32.81						Unknown	
SYMMETRIC SPINNAKERS (3)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
N2	14.60	14.60	14.60	7.17	7.47	87.97				Unknown						
N1	14.60	14.60	14.60	7.17	7.47	87.97				Unknown						
N3	13.10	13.10	13.10	7.70	7.45	83.52				Unknown						
ASYMMETRIC SPINNAKERS (1)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
1	14.78	13.40	14.09	5.46	7.25	68.32	asym				Unknown					

2019

ORC Club Certificate Appendix

BOAT

Name	NORA LII	Certificate Number	EST345
Sail Nr	EST 345	Issued On	4/20/2019

TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1076.7	899.7	794.3	731.4	704.7	692.5	687.5
52°	706.8	600.8	541.8	517.1	505.1	499.8	496.0
60°	669.5	572.0	526.5	506.1	494.3	487.5	482.6
75°	644.4	552.6	515.6	496.9	483.4	472.7	459.9
90°	652.7	553.7	507.8	486.4	473.7	466.2	443.3
110°	661.4	547.5	503.1	480.1	460.4	442.9	419.5
120°	680.7	561.1	508.8	484.1	463.6	443.1	409.7
135°	749.7	616.1	535.1	500.5	478.9	458.4	418.2
150°	891.7	709.0	601.7	532.7	501.1	480.8	442.3
Run VMG	1029.6	818.8	694.2	607.7	549.1	511.1	470.4

Selected Courses

Windward / Leeward	1053.1	859.2	744.2	669.6	626.9	601.8	579.0
Circular Random	888.2	717.0	624.7	570.9	538.0	516.8	490.9
Coastal / Long Distance	1050.8	807.2	670.7	587.7	546.8	517.8	471.8
Non Spinnaker	941.8	754.9	653.0	592.9	555.7	531.7	503.0

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	42.6°	40.6°	40.7°	39.3°	38.1°	37.5°	37.9°
Beat VMG	3.34	4.00	4.53	4.92	5.11	5.20	5.24
52°	5.09	5.99	6.64	6.96	7.13	7.20	7.26
60°	5.38	6.29	6.84	7.11	7.28	7.38	7.46
75°	5.59	6.51	6.98	7.24	7.45	7.62	7.83
90°	5.52	6.50	7.09	7.40	7.60	7.72	8.12
110°	5.44	6.58	7.16	7.50	7.82	8.13	8.58
120°	5.29	6.42	7.08	7.44	7.77	8.12	8.79
135°	4.80	5.84	6.73	7.19	7.52	7.85	8.61
150°	4.04	5.08	5.98	6.76	7.18	7.49	8.14
Run VMG	3.50	4.40	5.19	5.92	6.56	7.04	7.65
Gybe Angles	145.6°	150.5°	151.1°	156.4°	180.0°	180.0°	180.0°