

BOAT	GPH	HULL
Name MINNI Sail Nr EST 50	610.5	Length Overall 10.600m Maximum Beam 3.250m Displacement 4,568kg Draft 2.035m Plan Review IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.000% Hull Construction Cored Carbon Rudder No Crew Arm Extension
GENERAL		IMSL 9.468m VCGD -0.002m Sink 17.68kg/mm RL 8.765m VCGM -0.015m WS 23.54m² LSM0 9.291m Displacement/Length ratio
Class X-35 mod Designer JEPPESEN Builder X YACHTS Series 09/2005 Age 01/2006 Age Allowance 0.487% Offset File EST50a.off - 6/11/2019 8:54:41 AM Measurement by K-H.Tagu - 19/06/2019		



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Rating Office
EYU
Purje 8
11911, Tallinn
Estonia

SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	594.8			664.6		
Time on Time	1.0088			1.0156		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	691.5	542.9	488.0	891.8	665.4	587.0
Time on Time	0.9762	1.2434	1.3831	0.7569	1.0144	1.1499

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1010.5	836.2	743.3	713.2	702.5	696.8	690.2
52°	661.2	558.8	515.6	502.0	496.9	494.7	487.7
60°	624.2	537.3	503.1	488.6	482.9	479.9	472.1
75°	596.5	523.0	493.7	474.7	461.5	454.9	449.9
90°	603.7	523.2	490.3	471.4	451.5	435.0	418.1
110°	613.9	517.0	480.2	453.0	433.9	420.4	399.0
120°	631.6	525.9	485.4	455.6	427.3	403.8	376.3
135°	699.1	568.0	506.5	475.7	447.2	419.8	362.8
150°	829.2	660.8	559.8	506.0	477.3	450.9	400.3
Run VMG	957.5	763.0	645.6	572.7	521.4	488.9	438.7
Selected Courses							
Windward / Leeward	984.0	799.6	694.5	643.0	612.0	592.9	564.5
Circular Random	833.0	675.8	592.7	545.2	516.2	496.8	470.1
Coastal / Long Distance	981.4	752.0	629.3	564.5	528.1	497.9	448.6
Non Spinnaker	889.5	715.6	622.3	568.3	535.2	513.4	484.8

Certificate
Number **EST050**
ORC Ref **035800001VF**
Issued On **5/26/2020**
VPP Ver. **2020 1.02**
Valid until **31/12/2020**

Crew Weight
Default **620kg**
Maximum **745kg**
Minimum* **559kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring
ToD ToT
Non Spin GPH **642.0 0.9346**
Non Spin OSN **624.6 0.9606**

Sails Limitations
Headsails **5** Spinnakers **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	42.8°	41.6°	40.1°	39.0°	39.0°	38.8°	39.4°
Beat VMG	3.56	4.31	4.84	5.05	5.12	5.17	5.22
52°	5.44	6.44	6.98	7.17	7.25	7.28	7.38
60°	5.77	6.70	7.16	7.37	7.46	7.50	7.63
75°	6.04	6.88	7.29	7.58	7.80	7.91	8.00
90°	5.96	6.88	7.34	7.64	7.97	8.28	8.61
110°	5.86	6.96	7.50	7.95	8.30	8.56	9.02
120°	5.70	6.85	7.42	7.90	8.43	8.92	9.57
135°	5.15	6.34	7.11	7.57	8.05	8.58	9.92
150°	4.34	5.45	6.43	7.12	7.54	7.98	8.99
Run VMG	3.76	4.72	5.58	6.29	6.90	7.36	8.21
Gybe Angles	142.0°	148.0°	151.0°	158.5°	180.0°	180.0°	180.0°

Class Division Length
CDL = **9.109**

Storm Sails Areas
Heavy Weather Jib **28.66**
Storm Jib (JL=9.48) **10.62**
Storm Trysail **11.51**

BOAT										INCLINING TEST AND FREEBOARDS									
Name MINNI					Sail Nr EST 50					Inclining Test Current Inclining									
File Est0050					Data in meters/kilograms					Flotation date 19/06/2019 SG 1.0000									
RIG										FFM 1.313 FF 1.324 SFFP 0.075 FAM 0.969 FA 0.978 SAFFP 10.275									
Forestay Tension Aft Spreaders 2 Inner Stay None Fitted Runners/Checkstays 0 Carbon Mast No Jib Furler No Fiber Rigging No Main Furler No Non-Circular Rigging No Articulated Bowsprit No										W1 70.0 PD1 544.2 WD 11.400 W2 70.0 PD2 544.9 GSA 1.0 W3 70.0 PD3 545.0 RSA 1.0 W4 70.0 PD4 545.1 PLM 9000.0									
P 13.780 E 4.770 MDT1 0.125 MW 0.184 IG 14.500 J 4.185 MDL1 0.185 GO 0.204 ISP 14.530 SFJ 0.125 MDT2 0.125 BD 0.220 BAS 1.745 SPL 4.180 MDL2 0.177 MWT 156.00 FSD 0.034 TPS 0.760 TL 0.760 MCG 4.600										LCF from stem on CL / on sheer 5.979 / 6.175 Maximum beam station from stem 7.300 RM Measured 115.3kg·m RM Default 121.5kg·m Limit of positive stability / Stab.Index 119.5° / 120.4 Freeboard at mast at 4.185 1.104									
MIZZEN RIG AND SAILS										PROPELLER									
N/A										Installation Strut PRD 0.420 Type Folding 2 blades PBW 0.128 Twin Screw No PIPA 0.0033									
										ST1 0.042 ST3 0.182 ST5 0.255 ST2 0.178 ST4 0.112 EDL 2.390									
COMMENTS										MOVABLE BALLAST									
										N/A									
CENTERBOARD																			
										N/A									
SAILS (Maximum Areas)																			
Mainsail						MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula						
						0.40	1.09	1.88	3.15	4.02	40.00	40.85	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)						
Symmetric						SLU	SLE	SL	SHW	SFL									
						14.30	14.30	14.30	7.94	7.39	93.31		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	Flying	Meas.Date	Material	Comment							
0.10	0.65	1.21	2.28	3.34	4.40	14.60	33.04	No	30/10/2018	Carbon	3di 2019 Light								
0.13	0.67	1.24	2.31	3.34	4.40	14.46	32.95	No	04/05/2018	Technor	Light 2016								
0.10	0.64	1.20	2.29	3.34	4.35	14.60	32.91	No	16/10/2018	Carbon	3di 2019 Medium								
0.10	0.63	1.20	2.27	3.30	4.36	14.31	32.07	No	04/05/2018	Spectra	Medium 2016								
0.14	0.59	1.11	2.16	3.28	4.44	13.42	29.62	No	01/06/2017	Technor	OS 2017 Heavy								
0.10	0.51	0.90	1.69	2.50	3.37	12.47	21.27	No	19/06/2019	Unknow	Staysail 2019								
MEASUREMENT INVENTORY																			
Mesurer K-H.Tagu EST 7 Date 19/06/2019 Comment Pirita Internal Ballast total = 0.0																			
Id	Item	Weight	Distance	VCG Description															
Id	Item	Maker	Model																
1	Engine	Yanmar	3YM20C																
Id	Item	Weight Description																	
MEASUREMENT INVENTORY																			
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condn	Description											
1	Tank	fuel	st.stl	60.0	6.15			60.0 fuel											
2	Tank	H2O	pvc	120.0	5.52			0.0 Water											
Id	Item	Weight	Distance	VCG Description															
1	Battery	44.3	4.85	170 Ah gel - services															
2	Battery	17.4	5.18	55 Ah - engine															
1	Misc	20.0	5.52	Table															
2	Misc	15.0	7.60	Boiler															
3	Misc	7.0	9.60	Autopilot															



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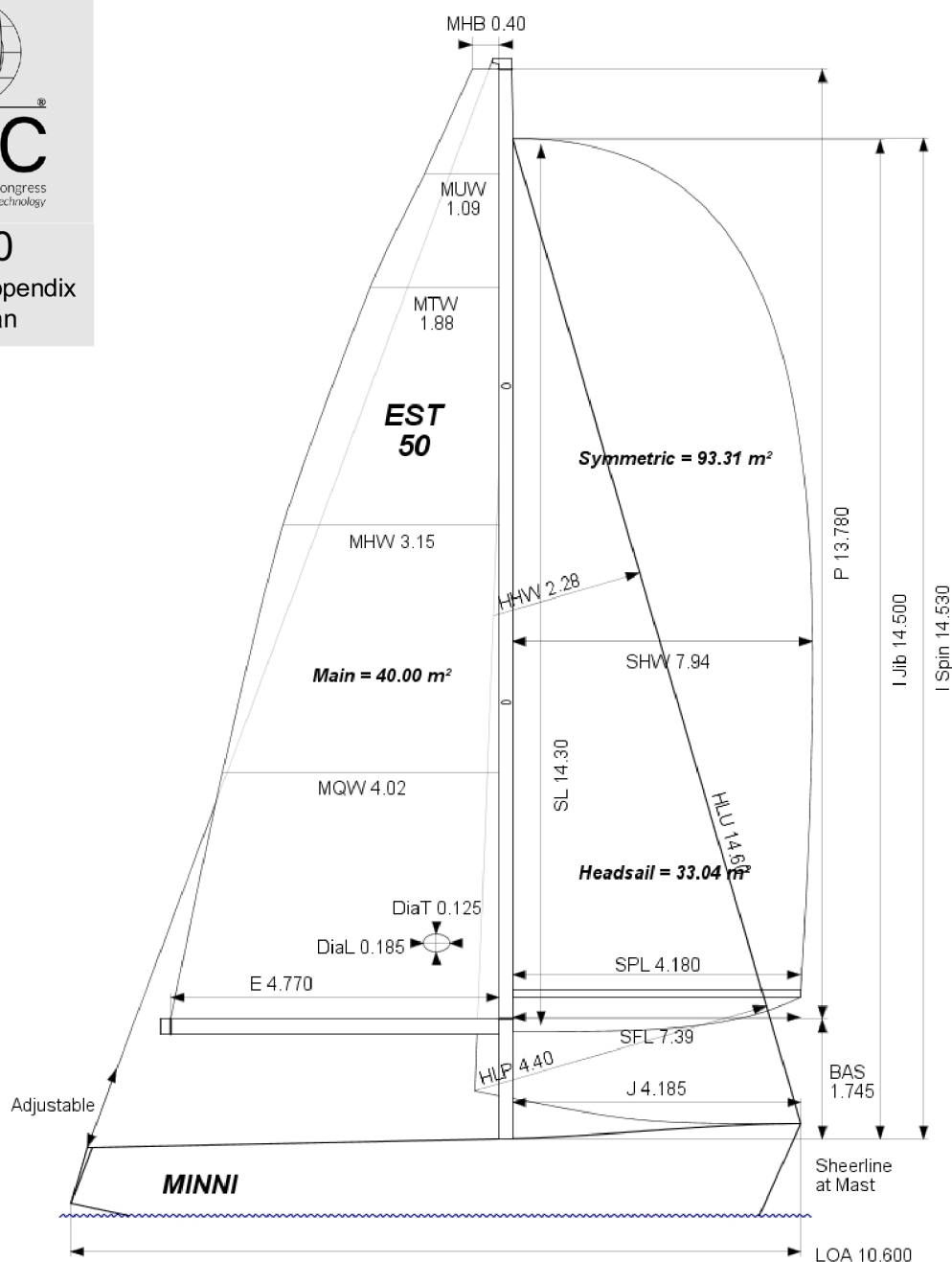
Certificate

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Sail Plan



SAILS INVENTORY

MAINSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
4	0.40	1.09	1.88	3.15	4.02	40.00	Sisl	16/10/2018		Carbon	3di 2019
3	0.36	1.09	1.80	2.97	3.85	38.55	EST 7	04/05/2018	OneSails	Unknown	P13,25;E4,60

HEADSAILS (6)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
9	0.10	0.65	1.21	2.28	3.34	4.40	14.60	105%	33.04	No	No	Sisl	30/10/2018		Carbon	3di 2019 Light
7a	0.13	0.67	1.24	2.31	3.34	4.40	14.46	105%	32.95	No	No	EST 7	04/05/2018		Technor	Light 2016
10	0.10	0.64	1.20	2.29	3.34	4.35	14.60	104%	32.91	No	No	Sisl	16/10/2018		Carbon	3di 2019 Medium
6a	0.10	0.63	1.20	2.27	3.30	4.36	14.31	104%	32.07	No	No	EST 7	04/05/2018		Spectra	Medium 2016
8	0.14	0.59	1.11	2.16	3.28	4.44	13.42	106%	29.62	No	No	SLO 03	01/06/2017	OneSails	Technor	OS 2017 Heavy
11	0.10	0.51	0.90	1.69	2.50	3.37	12.47	81%	21.27	No	No	EST 7	19/06/2019		Unknow	Staysail 2019

SYMMETRIC SPINNAKERS (4)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
10	14.30	14.30	14.30	7.94	7.39	93.31	EST 7	04/05/2018		Unknown	S2
9	14.14	14.14	14.14	7.92	7.80	93.05	EST 7	04/05/2018		Unknown	S1
3	14.20	14.20	14.20	7.70	7.40	90.41	EST 1	01/07/2015		Unknown	S4 0,75oz
8	14.07	14.07	14.07	6.54	6.78	77.25	SLO 03	01/06/2017		Unknown	R

ASYMMETRIC SPINNAKERS (0)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
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