

BOAT		GPH	HULL			
Name VESIKAAR Sail Nr EST 678		634,5	Length Overall 9,990m Maximum Beam 3,296m Displacement 4 445kg Draft 2,249m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0,193% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder Yes Crew Arm Extension			
GENERAL			IMSL 9,535m VCGD 0,166m Sink 17,87kg/mm RL 8,357m VCGM 0,109m WS 23,10m² LSM0 9,371m Displacement/Length ratio 5,4015			
Class T-34 Designer Lostuzzi design Builder T-Yachts Series 04.2009 Age 06.2009 Age Allowance 0,228% Offset File T34-VER.OFF - 13.04.2010 13:15:34 Measurement by V.Rosme/A.Tetsmann - 29.06.2016						



2016
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Certificate

SCORING OPTIONS						
	OFFSHORE COASTAL / LONG DISTANCE			INSHORE WINDWARD / LEEWARD		
Time On Distance	615,5			686,8		
Time On Time	0,9749			0,9829		
Performance Line	PLT		PLD	PLT		PLD
	0,653		33,0	0,810		190,0
Triple Number	Low	Medium	High	Low	Medium	High
	0,9198	1,2043	1,3638	0,7080	0,9765	1,1386

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TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1097,8	904,1	793,8	730,4	707,0	696,0	681,6
52°	712,5	595,7	533,7	507,7	499,0	494,7	488,5
60°	668,2	562,8	515,8	494,3	484,5	479,8	475,1
75°	632,2	539,4	502,8	481,9	465,1	454,6	447,3
90°	635,5	540,4	497,5	482,8	463,9	444,8	419,7
110°	645,4	534,6	493,1	465,3	443,0	430,1	407,5
120°	664,4	547,1	499,4	471,8	443,3	415,8	387,9
135°	734,2	596,1	522,2	489,8	464,2	437,1	383,1
150°	876,1	692,8	583,7	520,0	490,3	466,5	417,1
Run VMG	1011,6	799,9	673,8	591,0	536,4	501,1	454,2
Selected Courses							
Windward / Leeward	1054,7	852,0	733,8	660,7	621,7	598,5	567,9
Circular Random	879,6	707,9	615,3	561,1	527,5	505,0	475,6
Ocean for PCS	1079,8	831,2	690,6	604,6	548,7	509,7	455,6
Non Spinnaker	937,5	749,0	646,0	585,1	547,2	522,3	490,5

Certificate
Number **EST678**
ORC Ref **EST00001202**
Issued On **3.07.2016**
VPP Ver. **2016 1.01**
Valid until **31.12.2016**

Crew Weight
Declared **690kg**
Default* **627kg**
Non Manual Pwr **No**

Special Scoring
ToD ToT
Double H.GPH **640,4 0,9369**
Double H.OSN **623,8 0,9619**
Non Spin GPH **667,0 0,8996**
Non Spin OSN **646,0 0,9288**
N/S Perf. Line **9,3 0,586**

Sails Limitations
Headsails **6** Spinnakers **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	43,6°	42,2°	41,7°	39,8°	38,6°	38,1°	38,3°
Beat VMG	3,28	3,98	4,53	4,93	5,09	5,17	5,28
52°	5,05	6,04	6,75	7,09	7,21	7,28	7,37
60°	5,39	6,40	6,98	7,28	7,43	7,50	7,58
75°	5,69	6,67	7,16	7,47	7,74	7,92	8,05
90°	5,67	6,66	7,24	7,46	7,76	8,09	8,58
110°	5,58	6,73	7,30	7,74	8,13	8,37	8,84
120°	5,42	6,58	7,21	7,63	8,12	8,66	9,28
135°	4,90	6,04	6,89	7,35	7,76	8,24	9,40
150°	4,11	5,20	6,17	6,92	7,34	7,72	8,63
Run VMG	3,56	4,50	5,34	6,09	6,71	7,18	7,93
Gybe Angles	145,3°	149,7°	150,4°	157,5°	175,2°	180,0°	180,0°

Class Division Length
CDL = **8,947**

Storm Sails Areas
Heavy Weather Jib **24,39**
Storm Jib (JL=8,74) **9,03**
Storm Try sail **9,94**

BOAT										INCLINING TEST AND FREEBOARDS									
Name VESIKAAR					Sail Nr EST 678					Inclining Test Current Inclining									
File EST0678.dxt					Data in meters/kilograms					Flotation date 03.07.2015 SG 1,0020									
RIG										FFM 1,259 FF 1,267 SFFP 0,550 FAM 0,960 FA 0,965 SAFF 9,820									
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										W1 62,000 PD1 545,1 WD 11,260 W2 62,000 PD2 544,2 GSA 1,0 W3 62,000 PD3 548,5 RSA 1,0 W4 62,000 PD4 549,4 PLM 9000,0									
P 12,760 E 4,450 MDT1 0,103 MW 0,185 IG 13,366 J 3,910 MDL1 0,198 GO 0,207 ISP 13,481 SFJ 0,000 MDT2 0,103 BD 0,150 BAS 1,536 SPL 4,000 MDL2 0,155 MWT 132,50 FSP 0,080 TPS 4,370 TL 2,060 MCG 4,900										LCF from stem on CL / on sheer 5,610 / 5,840 Maximum beam station from stem 6,400 RM Measured 100,5kg·m RM Default 110,6kg·m Limit of positive stability / Stab.Index 114,0° / 114,2 Freeboard at mast at 3,910 1,153									
MIZZEN RIG AND SAILS										PROPELLER									
N/A										Installation Strut PRD 0,382 Type Folding 3 blades PBW 0,098 Twin Screw No PIPA 0,0036									
										ST1 0,065 ST3 0,180 ST5 0,224 ST2 0,180 ST4 0,110 EDL 1,580									
COMMENTS										MOVEABLE BALLAST									
										N/A									
CENTERBOARD																			
										N/A									
SAILS (Maximum Areas)																			
Mainsail						MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula						
						0,260	0,94	1,61	2,76	3,64	33,07	33,64	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)						
Symmetric						SLU	SLE	SL	SHW	SFL									
						13,44	13,44	13,44	7,83	7,20	86,28		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							
0,11	0,73	1,36	2,40	3,32	4,17	13,26	30,27	Y		29.06.2016	Carbon								
0,10	0,69	1,28	2,32	3,32	4,25	12,97	29,30	Y		18.04.2015	Unknow								
0,10	0,67	1,25	2,28	3,22	4,11	13,16	28,92	Y		15.06.2016	Unknow								
0,09	0,66	1,25	2,24	3,22	4,20	12,98	28,58	Y		18.04.2015	Unknow								
0,09	0,51	0,95	1,90	2,98	4,11	12,97	25,80	Y		18.04.2015	Unknow								
MEASUREMENT INVENTORY																			
Mesurer Veiko Rosme EST 2 Date 03.07.2015 Comment										MEASUREMENT INVENTORY									
Id	Item	Weight	Distance	VCG		Description				Id	Item	Tank	Use	Tank Type	Capcty	Dist.	VCG	Condtn	Description
1	Engine	Volvo-Penta								1	Tank	Diesel	PVC		61,0	4,90		40,0	ports.
1	Engine	Volvo-Penta								3	Tank	Water	PVC		61,0	4,30		0,0	stb.
Id	Item	Weight	Distance	VCG		Description				Id	Item	Weight	Distance	VCG		Description			
1	Battery									1	Battery		4,85					100	Ah, stb.
2	Battery									2	Battery		4,85					100	Ah, stb.
1	Misc									1	Misc		9,60					Autopilot Nexus ML40	

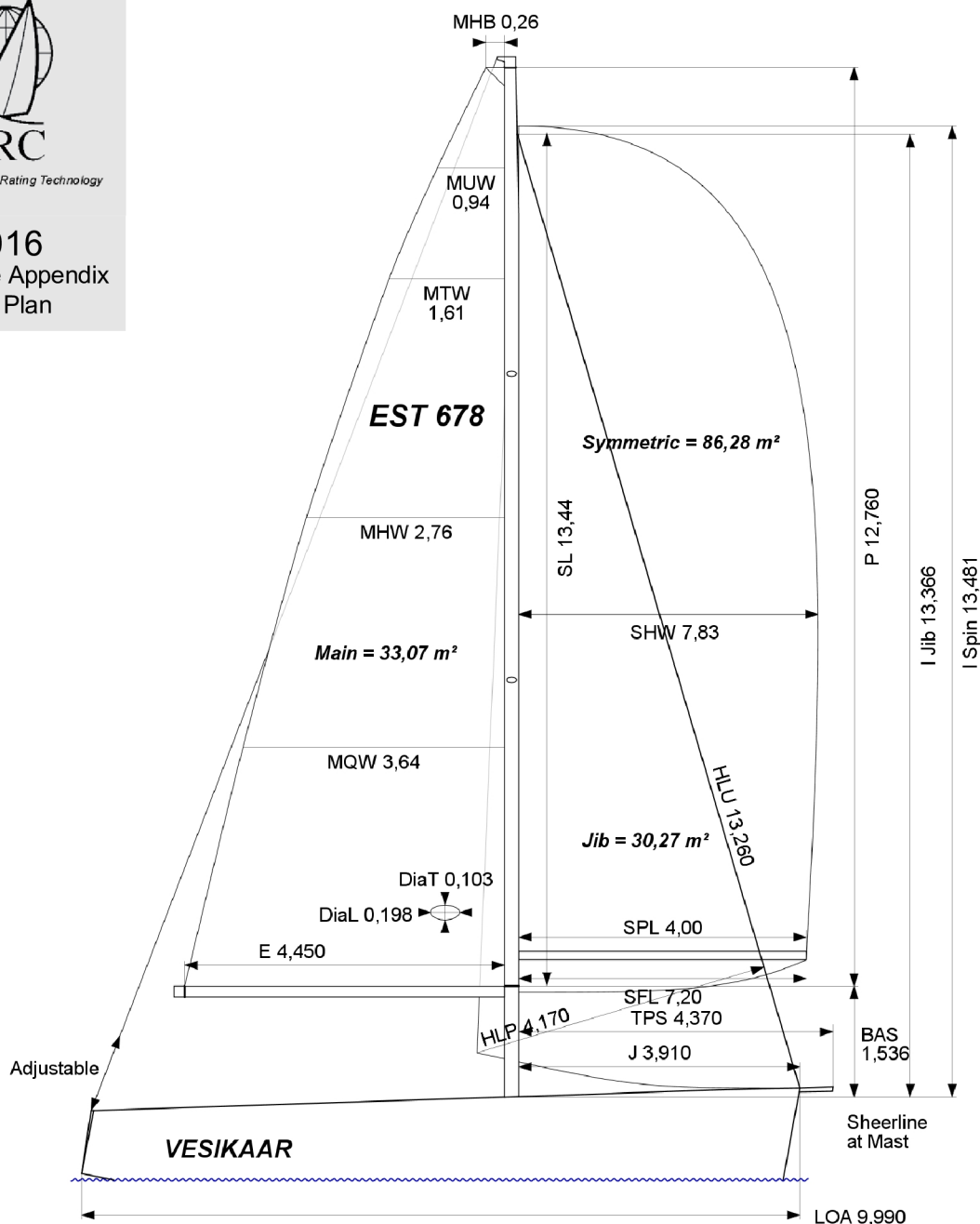


Certificate
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2016 Certificate Appendix Sail Plan



SAILS INVENTORY

MAINSAIL

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
4	0,260	0,94	1,61	2,76	3,64	33,07	EST 1	29.06.2016	North	Carbon	2016

HEADSAILS

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
7	0,11	0,73	1,36	2,40	3,32	4,17	13,26	107%	30,27	Y		EST 1	29.06.2016		Carbon	
4	0,10	0,69	1,28	2,32	3,32	4,25	12,97	109%	29,30	Y		EST 1	18.04.2015		Unknown	
8	0,10	0,67	1,25	2,28	3,22	4,11	13,16	105%	28,92	Y		EST 1	15.06.2016		Unknown	
5	0,09	0,66	1,25	2,24	3,22	4,20	12,98	107%	28,58	Y		EST 1	18.04.2015		Unknown	
6	0,09	0,51	0,95	1,90	2,98	4,11	12,97	105%	25,80	Y		EST 1	18.04.2015		Unknown	

SYMMETRIC SPINNAKERS

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
5	13,44	13,44	13,44	7,83	7,20	86,28			North	Unknown	S2 2016
6	13,50	13,50	13,50	7,78	7,22	86,27			North	Unknown	S1,5 2016
7	13,60	13,60	13,60	7,20	7,60	82,51	Hemamali	16.06.2016	North	Unknown	S3 2016
3	13,44	13,44	13,44	7,27	7,27	81,42	EST 2	24.07.2011		Unknown	
4	13,35	13,35	13,35	7,10	6,92	78,59	EST 1	18.04.2015		Unknown	

ASYMMETRIC SPINNAKERS

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