BOAT

Name **Katariina II**
Sail Nr **EST-949**

GPH

539.4

GENERAL

Class	**SWAN 42 CLUB**
Designer	**FRERS**
Builder	**NAUTOR**
Series	**05/2006**
Age	**07/2008**
Age Allowance	**0.455%**
Offset File	**SWAN42CS.OFF - 07/01/2020 13:24:33**
Measurement by	**- 08/05/2019**

HULL

Length Overall	**12.960m**
Maximum Beam	**3.910m**
Displacement	**7,557kg**
Draft	**2.738m**
Plan Review	
IMS Reg. Division	**Performance**
Dynamic Allowance	**0.000%**
Hull Construction	**Cored**
Carbon Rudder	**Yes**
Crew Arm Extension	

IMSL	**11.819m**	VCGD	**-0.495m**	Sink	**24.30kg/mm**
RL	**11.247m**	VCGM	**-0.387m**	WS	**32.90m²**
LSM0	**11.491m**	Displacement/Length ratio			**4.9805**

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SCORING OPTIONS

	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	**525.5**			**590.5**		
Time on Time	**1.1419**			**1.1431**		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	**605.9**	**481.1**	**433.1**	**780.4**	**591.2**	**526.0**
Time on Time	**1.1140**	**1.4029**	**1.5586**	**0.8649**	**1.1417**	**1.2833**

Rating Office

Estonian Yachting Union
Purje 8, maja 3
11911 Tallinn
Estonia

EJL
ESTONIAN YACHTING UNION

TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	**887.7**	**731.3**	**656.7**	**629.6**	**617.6**	**608.7**	**596.9**
52°	**583.6**	**491.7**	**458.9**	**447.7**	**442.5**	**439.7**	**431.6**
60°	**552.2**	**474.5**	**447.9**	**435.9**	**430.0**	**426.4**	**418.4**
75°	**527.8**	**463.6**	**438.9**	**422.7**	**410.2**	**403.0**	**396.2**
90°	**532.1**	**463.2**	**437.8**	**418.8**	**400.6**	**385.2**	**367.1**
110°	**534.0**	**454.5**	**424.5**	**407.2**	**393.0**	**378.5**	**353.6**
120°	**547.3**	**459.1**	**426.4**	**398.8**	**378.2**	**362.6**	**334.2**
135°	**608.6**	**490.3**	**443.2**	**415.4**	**386.6**	**358.0**	**304.2**
150°	**723.4**	**577.9**	**491.0**	**445.7**	**424.7**	**403.1**	**348.4**
Run VMG	**835.3**	**667.3**	**567.0**	**514.2**	**489.2**	**459.3**	**402.3**
Selected Courses							
Windward / Leeward	**861.5**	**699.3**	**611.8**	**571.9**	**553.4**	**534.0**	**499.6**
Circular Random	**732.4**	**595.5**	**523.8**	**483.2**	**458.1**	**440.4**	**413.2**
Coastal / Long Distance	**858.9**	**658.2**	**555.1**	**500.0**	**470.8**	**443.7**	**396.3**
Non Spinnaker	**800.5**	**643.7**	**559.0**	**509.3**	**478.0**	**456.9**	**428.5**

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°**	**40.9°**	**39.4°**	**37.9°**	**37.9°**	**37.1°**	**37.1°**
Beat VMG	**4.06**	**4.92**	**5.48**	**5.72**	**5.83**	**5.91**	**6.03**
52°	**6.17**	**7.32**	**7.85**	**8.04**	**8.14**	**8.19**	**8.34**
60°	**6.52**	**7.59**	**8.04**	**8.26**	**8.37**	**8.44**	**8.60**
75°	**6.82**	**7.76**	**8.20**	**8.52**	**8.78**	**8.93**	**9.09**
90°	**6.77**	**7.77**	**8.22**	**8.60**	**8.99**	**9.35**	**9.81**
110°	**6.74**	**7.92**	**8.48**	**8.84**	**9.16**	**9.51**	**10.18**
120°	**6.58**	**7.84**	**8.44**	**9.03**	**9.52**	**9.93**	**10.77**
135°	**5.92**	**7.34**	**8.12**	**8.67**	**9.31**	**10.06**	**11.84**
150°	**4.98**	**6.23**	**7.33**	**8.08**	**8.48**	**8.93**	**10.33**
Run VMG	**4.31**	**5.39**	**6.35**	**7.00**	**7.36**	**7.84**	**8.95**
Gybe Angles	**143.0°**	**145.3°**	**149.0°**	**152.0°**	**151.5°**	**176.0°**	**143.3°**

Certificate

Number	**149/20**
ORC Ref	**03880000OLI**
Issued On	**18/08/2020**
VPP Ver.	**2020 1.02**
Valid until	**31/12/2020**

Crew Weight

Default	839kg
Maximum	**915kg**
Minimum*	**686kg**

*when applied by the NoR and SI

Non Manual Pwr	**No**

Special Scoring

	ToD	ToT
Non Spin GPH	**576.5**	**1.0408**
Non Spin OSN	**562.7**	**1.0663**

Sails Limitations

Headsails	Spinnakers
6	**4**

Class Division Length

CDL = **11.528**

Storm Sails Areas

Heavy Weather Jib	**44.58**
Storm Jib (JL=11.82)	**16.51**
Storm Trysail	**17.35**

BOAT

Name	**Katariina II**	Sail Nr	**EST-949**
File	**EST949**	Data in	**meters/kilograms**

RIG

Forestay Tension	**Aft**	Spreaders	**2**
Inner Stay	**None Fitted**	Runners/Checkstays	**0**
Carbon Mast	**Yes**	Jib Furler	**No**
Fiber Rigging	**No**	Main Furler	**No**
Non-Circular Rigging	**No**		
Articulated Bowsprit	**No**		

P	**17.180**	E	**5.770**	MDT1	**0.140**	MW	**0.263**
IG	**18.000**	J	**5.000**	MDL1	**0.263**	GO	**0.310**
ISP	**19.470**	SFJ	**0.344**	MDT2	**0.140**	BD	**0.248**
BAS	**1.955**	SPL	**0.000**	MDL2	**0.190**	MWT	**255.00**
FSD		TPS	**7.318**	TL	**0.900**	MCG	**6.150**

INCLINING TEST AND FREEBOARDS

Inclining Test **Current Inclining**

Flotation date **30/07/2020** SG **1.0260**

FFM	**1.465**	FF	**1.465**	SFFP	**0.474**
FAM	**1.119**	FA	**1.119**	SAFP	**12.543**
W1	**99.4**	PD1	**493.1**	WD	**14.270**
W2	**99.4**	PD2	**500.3**	GSA	**1.0**
W3	**99.4**	PD3	**495.4**	RSA	**1.0**
W4	**99.4**	PD4	**496.5**	PLM	**9000.0**

LCF from stem on CL / on sheer	**7.166 / 7.414**
Maximum beam station from stem	**8.347**
RM Measured	**225.1kg·m**
RM Default	**214.4kg·m**
Limit of positive stability / Stab.Index	**136.5° / 138.9**
Freeboard at mast at 5.344	**1.242**

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MIZZEN RIG AND SAILS

N/A

PROPELLER

Installation	**Strut**	PRD	**0.430**
Type	**Folding 2 blades**	PBW	**0.110**
Twin Screw	**No**	PIPA	**0.0041**

ST1	**0.065**	ST3	**0.180**	ST5	**0.302**
ST2	**0.180**	ST4	**0.110**	EDL	**1.800**

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COMMENTS

BOAT EMPTY WITHOUT TABLE

MOVABLE BALLAST

N/A

CENTERBOARD

N/A

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SAILS (Maximum Areas)

Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula
	0.18	1.48	2.44	3.78	4.85	60.69	62.09	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)

Symmetric
Not Available

Asymmetric	SLU	SLE	SL	SHW	SFL		
on centerline	22.10	17.69	19.89	11.12	11.07	184.19	AS · (SFL + 4·SHW) / 6

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	0.81	1.50	2.73	3.96	5.36	18.36	50.06	Y	No	18/07/2018	Unknow	Light 2018
0.10	0.80	1.49	2.72	3.95	5.35	18.29	49.70	Y	No	08/05/2019	Unknow	Light 2019
0.10	0.78	1.37	2.71	4.03	5.36	18.30	49.64	Y	No	08/05/2019	Unknow	superligt 2019
0.09	0.79	1.49	2.72	3.93	5.34	18.29	49.56	Y	No	08/05/2019	Unknow	Medium 2019
0.09	0.79	1.48	2.69	3.88	5.28	18.10	48.51	Y	No	30/04/2018	Unknow	Medium trieste 2017
0.10	0.79	1.46	2.65	3.92	5.28	18.00	48.19	Y	No	30/04/2018	Unknow	Light trieste 2017
0.10	0.72	1.34	2.55	3.84	5.30	18.30	47.80	Y	No	10/09/2018	Unknow	Heavy 2018
0.10	0.71	1.33	2.54	3.83	5.27	18.17	47.24	Y	No	14/03/2016	Unknow	Heavy 2016
0.10	0.80	1.60	1.80	3.50	3.96	16.85	37.10		Inner		Unknow	Stay sail

MEASUREMENT INVENTORY

Measurer **PINDOZZI-MUZZI 174-66**
Date **30/07/2020**
Comment **Carbon Boom**
Internal Ballast total = 194.5

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*

Id	*Item*	*Maker*	*Model*
A	Engine	VOLVO PENTA	D2-40B

Id	*Item*	*Weight*	*Description*

MEASUREMENT INVENTORY

Id	*Item*	*Tank Use*	*Tank Type*	*Capcty*	*Dist.*	*VCG*	*Condtn*	*Description*
A	Tank	FUEL	PVC	70.0	5.85		~~5.0~~	STB
B	Tank	FUEL	PVC	70.0	5.85		~~0.0~~	PORT
C	Tank	WATER	PVC	320.0	6.60		~~0.0~~	2x160 l

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*
A	Ballast	85.4	7.96		5 pieces lead PORT
B	Ballast	68.3	7.61		4 pieces lead STB
C	Ballast	20.8	8.61		CORRECTOR WEIGHTS 1 PORT+1 STB
D	Ballast	20.0	5.15		CORRECTOR WEIGHTS 2xCX
A	Battery		6.31		2 BATTERIES CX
B	Battery		9.41		1 BATTERY STB
A	Misc		8.16		COOKING STOVE
B	Misc		11.88		AUTOPILOT

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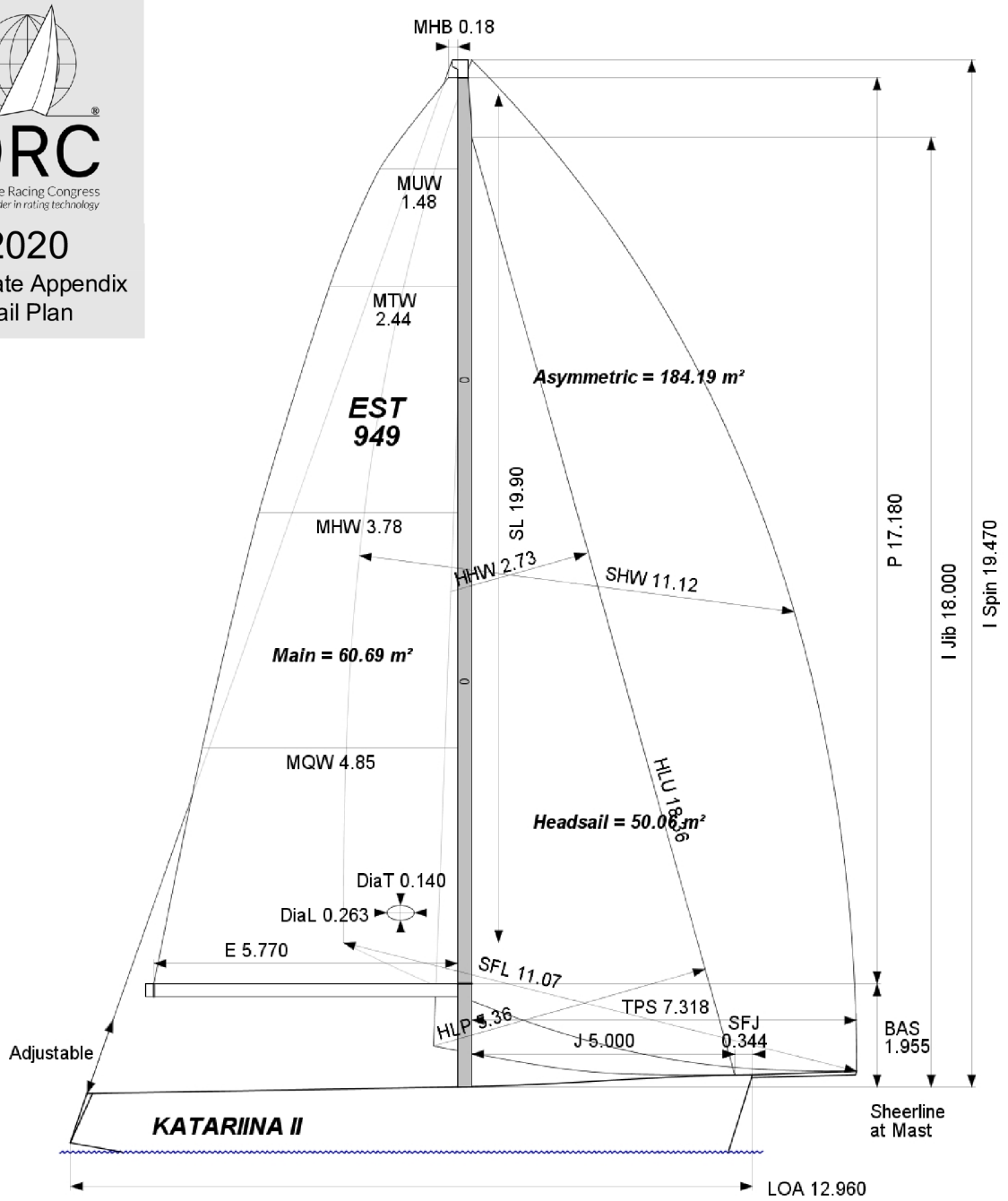
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
C	0.18	1.48	2.44	3.78	4.85	60.69	ITA122	08/05/2019	NORTH	Unknown	2018
B	0.17	1.48	2.43	3.75	4.82	60.39	ITA120	30/04/2018	N/S	Unknown	2017

HEADSAILS (9)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
C	0.10	0.81	1.50	2.73	3.96	5.36	18.36	107%	50.06	Y	No	ITA122	18/07/2018	North Sails	Unknow	Light 2018
I	0.10	0.80	1.49	2.72	3.95	5.35	18.29	107%	49.70	Y	No	ITA122	08/05/2019	North	Unknow	Light 2019
J	0.10	0.78	1.37	2.71	4.03	5.36	18.30	107%	49.64	Y	No	ITA122	08/05/2019	north	Unknow	superligt 2019
D	0.09	0.79	1.49	2.72	3.93	5.34	18.29	107%	49.56	Y	No	ITA122	08/05/2019	north	Unknow	Medium 2019
E	0.09	0.79	1.48	2.69	3.88	5.28	18.10	106%	48.51	Y	No	ITA120	30/04/2018	N/S	Unknow	Medium trieste 2017
A	0.10	0.79	1.46	2.65	3.92	5.28	18.00	106%	48.19	Y	No	ITA120	30/04/2018	North Sails	Unknow	Light trieste 2017
G	0.10	0.72	1.34	2.55	3.84	5.30	18.30	106%	47.80	Y	No	ITA122	10/09/2018	NORTH	Unknow	Heavy 2018

SYMMETRIC SPINNAKERS (0)

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

ASYMMETRIC SPINNAKERS (2)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
H	22.10	17.69	19.90	11.12	11.07	184.20	asym	ITA122	08/05/2019	NORTH	Unknown	A2 2018
F	21.84	17.97	19.91	10.97	11.29	183.03	asym	Yayes	30/04/2019	N/S	Unknown	A1,5 2019