BOAT

Name **Warpath**
Sail Nr **SWE 151**

GPH

532.9

GENERAL

Class	**FARR 40 ONE-DESIGN**
Designer	**FARR**
Builder	**US Watercraft**
Series	**05/1997, CIN US-CIR40107-303**
Age	**05/2003**
Age Allow ance	**0.487%**
Offset File	**FARR40.OD.OFF - 13/05/2015 19:45:08**
Measurement by	**- 03/10/2018**

HULL

Length Overall	**12.411m**
Maximum Beam	**3.956m**
Displacement	**5,302kg**
Draft	**2.607m**
IMS Reg. Division	**Performance**
Dynamic Allow ance	**0.000%**
Fw d Accommodation	**No**
Hull Construction	**Cored**
Carbon Rudder	**Yes**
Crew Arm Extension	

IMSL	**11.326m**	VCGD	**-0.234m**	Sink	**21.47kg/mm**
RL	**11.248m**	VCGM	**-0.248m**	WS	**28.27m²**
LSM0	**11.049m**	Displacement/Length ratio			**3.9307**

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SCORING OPTIONS

	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	**519.1**			**580.4**		
Time on Time	**1.1559**			**1.1629**		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	**596.4**	**477.3**	**424.2**	**765.7**	**584.7**	**512.8**
Time on Time	**1.1318**	**1.4143**	**1.5912**	**0.8815**	**1.1545**	**1.3163**

Rating Office

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TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	**865.3**	**711.4**	**651.7**	**629.6**	**618.8**	**603.4**	**599.7**
52°	**568.8**	**483.5**	**460.0**	**451.4**	**446.6**	**441.4**	**433.6**
60°	**537.2**	**469.1**	**447.8**	**438.1**	**432.0**	**428.2**	**415.2**
75°	**513.1**	**459.5**	**435.2**	**417.1**	**406.7**	**400.2**	**389.0**
90°	**516.4**	**459.4**	**433.1**	**408.3**	**388.4**	**375.0**	**361.8**
110°	**534.0**	**456.6**	**425.9**	**406.4**	**388.6**	**373.5**	**334.2**
120°	**548.1**	**460.7**	**424.7**	**393.9**	**374.6**	**359.9**	**323.9**
135°	**605.0**	**488.7**	**443.4**	**409.3**	**375.6**	**342.4**	**295.5**
150°	**716.8**	**570.4**	**487.7**	**445.7**	**414.5**	**383.5**	**321.0**
Run VMG	**827.7**	**658.7**	**563.0**	**506.2**	**468.1**	**436.6**	**370.6**
Selected Courses							
Windward / Leeward	**846.5**	**685.1**	**607.3**	**567.9**	**543.4**	**520.0**	**485.2**
Circular Random	**722.5**	**588.5**	**518.1**	**477.3**	**451.1**	**432.1**	**404.0**
Coastal / Long Distance	**844.6**	**646.0**	**551.4**	**497.3**	**465.1**	**435.7**	**386.3**
Non Spinnaker	**783.7**	**631.9**	**550.3**	**502.1**	**471.3**	**449.8**	**420.6**

Certificate

Number	**151**
ORC Ref	**SWE20190368**
Issued On	**13/08/2019**
VPP Ver.	**2019 1.01**
Valid until	**31/12/2019**

Crew Weight

Default	794kg
Maximum	**830kg**
Minimum*	**623kg**

**when applied by the NoR and SI*

Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	**546.3**	**1.0982**
Double H.OSN	**535.5**	**1.1204**
Non Spin GPH	**567.0**	**1.0582**
Non Spin OSN	**553.8**	**1.0834**

Sails Limitations

Headsails	Spinnakers
6	**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	**42.4°**	**40.9°**	**38.4°**	**37.6°**	**37.1°**	**36.2°**	**36.7°**
Beat VMG	**4.16**	**5.06**	**5.52**	**5.72**	**5.82**	**5.97**	**6.00**
52°	**6.33**	**7.45**	**7.83**	**7.97**	**8.06**	**8.16**	**8.30**
60°	**6.70**	**7.67**	**8.04**	**8.22**	**8.33**	**8.41**	**8.67**
75°	**7.02**	**7.83**	**8.27**	**8.63**	**8.85**	**9.00**	**9.25**
90°	**6.97**	**7.84**	**8.31**	**8.82**	**9.27**	**9.60**	**9.95**
110°	**6.74**	**7.88**	**8.45**	**8.86**	**9.26**	**9.64**	**10.77**
120°	**6.57**	**7.81**	**8.48**	**9.14**	**9.61**	**10.00**	**11.12**
135°	**5.95**	**7.37**	**8.12**	**8.80**	**9.59**	**10.51**	**12.18**
150°	**5.02**	**6.31**	**7.38**	**8.08**	**8.68**	**9.39**	**11.22**
Run VMG	**4.35**	**5.47**	**6.39**	**7.11**	**7.69**	**8.25**	**9.71**
Gybe Angles	**143.5°**	**143.3°**	**150.3°**	**157.1°**	**171.6°**	**180.0°**	**146.5°**

Class Division Length

CDL = **11.288**

Storm Sails Areas

Heavy Weather Jib	**35.49**
Storm Jib (JL=10.54)	**13.15**
Storm Trysail	**16.94**

Owner

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BOAT

Name	**Warpath**	Sail Nr	**SWE 151**
File	**SWE151 Farr40**	Data in	**meters/kilograms**

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	**16.400**	E	**5.900**	MDT1	**0.121**	MW	**0.240**
IG	**16.179**	J	**4.705**	MDL1	**0.240**	GO	**0.250**
ISP	**18.275**	SFJ	**0.000**	MDT2	**0.090**	BD	**0.225**
BAS	**1.745**	SPL	**5.570**	MDL2	**0.104**	MWT	**176.70**
FSP	**0.076**	TPS	**4.705**	TL	**1.993**	MCG	**5.497**

INCLINING TEST AND FREEBOARDS

Inclining Test **Current Inclining**

Flotation date **03/10/2018** SG **1.0040**

FFM	**1.324**	FF	**1.331**	SFFP	**0.152**
FAM	**1.005**	FA	**1.009**	SAFP	**11.954**
W1	**94.6**	PD1	**587.0**	WD	**13.370**
W2	**94.6**	PD2	**599.6**	GSA	**1.0**
W3	**94.6**	PD3	**595.2**	RSA	**1.0**
W4	**94.6**	PD4	**590.5**	PLM	**9000.0**

LCF from stem on CL / on sheer	**6.856 / 7.115**
Maximum beam station from stem	**8.199**
RM Measured	**168.0kg·m**
RM Default	**169.1kg·m**
Limit of positive stability / Stab.Index	**127.1° / 123.7**
Freeboard at mast at 4.705	**1.188**

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MIZZEN RIG AND SAILS

N/A

PROPELLER

Installation	**Strut**	PRD	**0.407**
Type	**Folding 2 blades**	PBW	
Twin Screw	**No**	PIPA	**0.0036**

ST1	**0.042**	ST3	**0.180**	ST5	**0.268**
ST2	**0.180**	ST4	**0.112**	EDL	**0.702**

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COMMENTS

MOVABLE BALLAST

N/A

CENTERBOARD

N/A

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SAILS (Maximum Areas)

Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula
	0.450	1.57	2.54	4.00	5.07	60.77	62.48	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)

Symmetric	SLU	SLE	SL	SHW	SFL		
	18.50	18.50	18.50	10.00	9.40	152.32	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
0.09	0.70	1.34	2.55	3.72	4.79	16.47	41.16	Y		28/03/2019	Unknow	IHC72327
0.09	0.71	1.33	2.55	3.71	4.79	16.46	41.09	Y		28/03/2019	Unknow	IHC72328
0.10	0.70	1.31	2.50	3.67	4.76	16.48	40.66	Y		03/04/2019	Unknow	IHC72329
					4.87	16.38	40.61	Y		10/08/2007	Unknow	Bad sticker
					4.25	14.90	32.24	Y		10/08/2007	Unknow	Bad sticker
0.07	0.58	1.06	1.93	2.63	3.25	13.49	24.32	N	Y	14/06/2018	Unknow	IHC72332

MEASUREMENT INVENTORY

Measurer **JT1330**
Date **03/10/2018**
Comment **Current CAT3**

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

Id	*Item*	*Maker*	*Model*
1	Engine	Yanmar	3YM30

Id	*Item*	*Weight*	*Description*

MEASUREMENT INVENTORY

Id	*Item*	*Tank Use*	*Tank Type*	*Capcty*	*Dist.*	*VCG*	*Condtn*	*Description*
2	Tank	Water	Bladder	100.0	6.50	0.00	~~0.0~~	
3	Tank	Fuel	SS	40.0	8.80	0.00	~~0.0~~	
1	Tank	Black Water	SS	25.0	4.00	1.60	~~0.0~~	

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*
1+2	Ballast	25.0	5.60	0.00	Corrector weights
1	Misc	12.0	10.00	0.40	Heater
4	Misc	45.0	7.00	0.00	Service batteries, 2x100Ah
3	Misc	20.0	7.00	0.00	Engine Battery
2	Misc	6.0	5.20	0.00	Fridge

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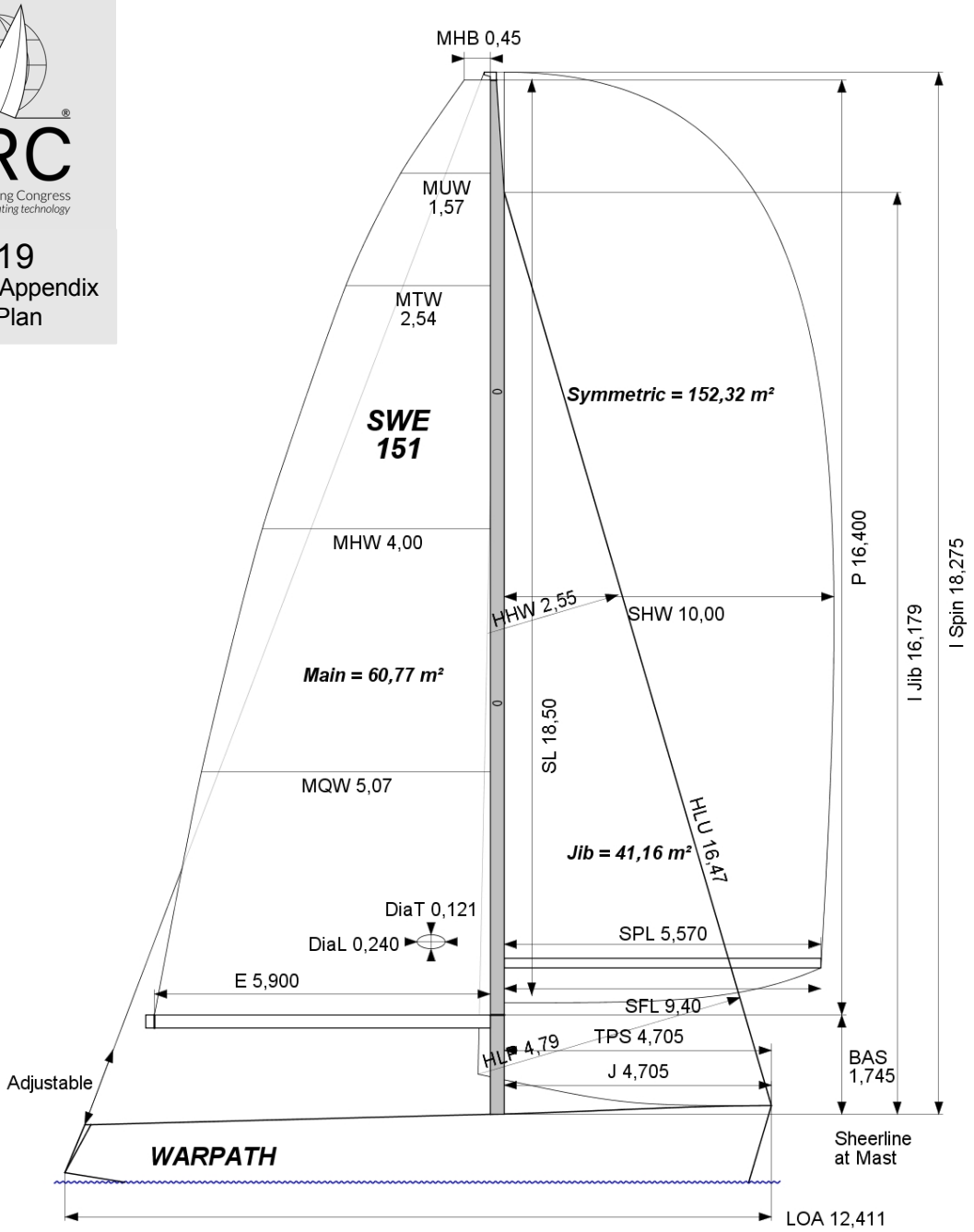
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
Main1	0.45	1.57	2.54	4.00	5.07	60.78		28/03/2019	UK	Unknown	IHC72326

HEADSAILS (6)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
J1-L	0.09	0.70	1.34	2.55	3.72	4.79	16.47	102%	41.16	Y			28/03/2019	UK	Unknow	IHC72327
J1-M	0.09	0.71	1.33	2.55	3.71	4.79	16.46	102%	41.09	Y			28/03/2019	UK	Unknow	IHC72328
Jibtop	0.10	0.70	1.31	2.50	3.67	4.76	16.48	101%	40.66	Y			03/04/2019	UK	Unknow	IHC72329
Code3						4.87	16.38	104%	40.61	Y			10/08/2007		Unknow	Bad sticker
Code4						4.25	14.90	90%	32.24	Y			10/08/2007		Unknow	Bad sticker
Stay sail	0.07	0.58	1.06	1.93	2.63	3.25	13.49	69%	24.32	N	Y		14/06/2018	UK	Unknow	IHC72332

SYMMETRIC SPINNAKERS (3)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
S2-Light	18.50	18.50	18.50	10.00	9.40	152.32		29/03/2019	UK	Nylon	IHC72331
S2-Medium	18.50	18.50	18.50	10.00	9.38	152.26		25/03/2019	UK	Nylon	IHC72330
S3	16.03	16.03	16.03	8.50	8.47	113.47		09/08/2007		Nylon	

ASYMMETRIC SPINNAKERS (0)

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

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