

BOAT
Name ZUUL Sail Nr 38012

GPH
565.1

HULL	Length Overall	11.552m
	Maximum Beam	3.987m
	Displacement	5,478kg
	Draft	2.401m
	Plan Review	
	IMS Reg. Division	Cruiser/Racer
	Dynamic Allowance	0.026%
	Hull Construction	Cored
	Carbon Rudder	Yes
	Crew Arm Extension	0.00
	IMSL	10.787m VCGD -0.076m Sink 21.65kg/mm
	RL	10.229m VCGM -0.095m WS 28.31m²
	LSM0	10.712m Displacement/Length ratio 4.4567



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GENERAL
Class AERODYNE 38
Designer Roger Martin
Builder Aerodyne Yachts
Series 01/1999
Age 01/2001
Age Allowance 0.487%
Offset File A38a.off - 02/05/2018 16:39:54
Measurement by - 23/05/2018

Rating Office

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Racing
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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	549.9			619.5		
Time on Time	1.0911			1.0896		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	640.4	502.8	448.1	826.6	619.2	546.6
Time on Time	1.0541	1.3426	1.5062	0.8166	1.0902	1.2350



TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	953.4	784.2	694.7	660.2	646.4	640.0	625.1
52°	624.8	526.0	484.0	468.7	462.4	459.0	450.5
60°	591.0	505.7	472.1	456.3	448.2	443.5	435.4
75°	565.5	492.2	463.0	442.7	426.5	416.8	408.2
90°	566.8	483.3	462.1	440.3	418.4	399.9	377.2
110°	552.9	472.7	439.7	419.2	404.0	388.9	360.8
120°	564.8	477.1	441.1	409.3	386.9	370.0	339.6
135°	635.7	508.3	460.1	427.4	395.0	362.8	306.9
150°	754.6	604.1	510.7	463.5	439.1	412.1	350.7
Run VMG	871.4	697.6	589.8	534.8	507.0	475.9	405.0

Certificate

Number **US6294**
ORC Ref **534100001UA**
Issued On **21/02/2020**
VPP Ver. **2020 1.01**
Valid until **31/12/2020**

Selected Courses							
Windward / Leeward	912.4	740.9	642.2	597.5	576.7	557.9	515.0
Circular Random	772.0	625.9	548.7	504.2	476.3	456.3	425.3
Coastal / Long Distance	908.3	696.2	582.4	521.7	489.3	460.1	407.3
Non Spinnaker	850.2	681.3	589.5	535.2	501.0	477.7	445.9

Crew Weight

Default 759kg
Maximum **759kg**
Minimum* **569kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

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°	41.3°	39.8°	38.3°	37.9°	37.5°	37.1°
Beat VMG	3.78	4.59	5.18	5.45	5.57	5.62	5.76
52°	5.76	6.84	7.44	7.68	7.79	7.84	7.99
60°	6.09	7.12	7.62	7.89	8.03	8.12	8.27
75°	6.37	7.31	7.78	8.13	8.44	8.64	8.82
90°	6.35	7.45	7.79	8.18	8.60	9.00	9.54
110°	6.51	7.62	8.19	8.59	8.91	9.26	9.98
120°	6.37	7.55	8.16	8.80	9.31	9.73	10.60
135°	5.66	7.08	7.83	8.42	9.12	9.92	11.73
150°	4.77	5.96	7.05	7.77	8.20	8.74	10.26
Run VMG	4.13	5.16	6.10	6.73	7.10	7.57	8.89
Gybe Angles	143.0°	146.0°	148.5°	151.5°	149.0°	146.5°	143.0°

Special Scoring

ToD ToT
Non Spin GPH **608.2** **0.9865**
Non Spin OSN **591.6** **1.0143**

Sails Limitations	
Headsails 6	Spinnakers 4

Class Division Length

CDL = **10.504**

Storm Sails Areas

Heavy Weather Jib **32.98**
Storm Jib (JL=10.16) **12.22**
Storm Trysail **13.79**

Owner

BOAT	
Name ZUUL	Sail Nr 38012
File US6294	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS		
Inclining Test Boom Inclining	LCFD	
Flotation date 23/05/2018	SG 1.0030	
FFM 1.449	FF 1.463	SFFP 0.069
FAM 1.020	FA 1.021	SAFP 11.164
W1 123.2	PD1 286.4	WD 5.036
W2 123.2	PD2 291.0	GSA 1.0
W3 123.2	PD3 293.9	RSA 1.0
W4 123.2	PD4 282.1	PLM 9000.0
LCF from stem on CL / on sheer	6.363 / 6.653	
Maximum beam station from stem	7.474	
RM Measured	169.5kg-m	
RM Default	158.8kg-m	
Limit of positive stability / Stab.Index	118.9° / 115.4	
Freeboard at mast at 4.766	1.182	



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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 15.758	E 4.999	MDT1 0.128	MW 0.178
IG 15.529	J 4.496	MDL1 0.198	GO 0.207
ISP 17.458	SFJ 0.270	MDT2 0.100	BD 0.165
BAS 1.468	SPL 0.000	MDL2 0.122	MWT 175.00
FSD 0.030	TPS 6.556	TL 1.745	MCG 5.825

MIZZEN RIG AND SAILS	
N/A	

PROPELLER		
Installation Strut	PRD 0.413	
Type Folding 2 blades	PBW 0.105	
Twin Screw No	PIPA 0.0035	
ST1 0.041	ST3 0.180	ST5 0.265
ST2 0.180	ST4 0.112	EDL 0.885

Certificate	
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COMMENTS

MOVABLE BALLAST	
N/A	

BILGEBOARD		
BS	BT	BA
BF	BX	
BC	BY	



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SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.30	1.35	2.29	3.52	4.30	50.37	51.60	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric Not Available									
Asymmetric on centerline	SLU	SLE	SL	SHW	SFL	Area	AS · (SFL + 4·SHW) / 6		
	19.79	16.83	18.31	11.09	10.81	168.36			

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
0.08	0.70	1.32	2.45	3.56	4.67	15.60	37.71	No				2019 LIGHT-MED HEADSAIL

MEASUREMENT INVENTORY				
Measurer	Date	Comment	Internal Ballast total = 0.0	
Id	Item	Weight	Distance	VCG Description
a	Anchor	0.0	0.00	
Id	Item	Weight Description		

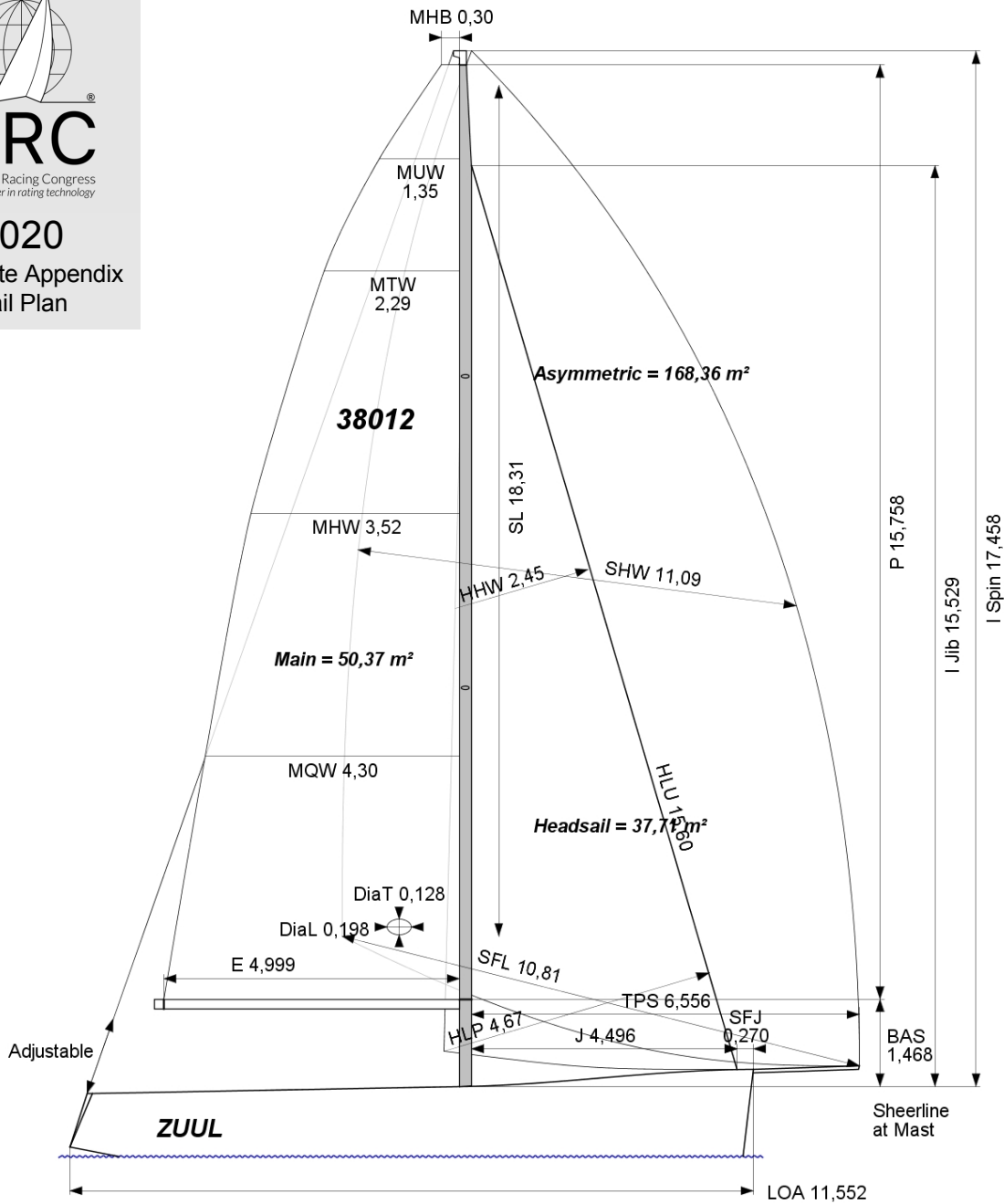
MEASUREMENT INVENTORY									
Id	Item	Tank	Use	Tank Type	Capcty	Dist.	VCG	Condtn	Description
	Tank					0.00	0.00	20.0	
Id	Item	Weight	Distance	VCG Description					



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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
2381696	0.30	1.35	2.29	3.52	4.30	50.38			RIDGELY		2019 RE-CUT

HEADSAILS (1)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
2381715	0.08	0.70	1.32	2.45	3.56	4.67	15.60	104%	37.71	No				ROBERT		2019 LIGHT-MED

SYMMETRIC SPINNAKERS (0)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
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ASYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
2381727	19.79	16.83	18.31	11.09	10.81	168.37	asym			NORTH SRI		2019 A2