BOAT

Name **ZUUL**
Sail Nr **38012**

GPH

563.3

GENERAL

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

HULL

Length Overall	**11.552m**
Maximum Beam	**3.987m**
Displacement	**5,478kg**
Draft	**2.401m**
IMS Reg. Division	**Cruiser/Racer**
Dynamic Allow ance	**0.012%**
Fw d Accommodation	**Yes**
Hull Construction	**Cored**
Carbon Rudder	**Yes**
Crew Arm Extension	**0.00**

IMSL	**10.787m**	VCGD	**-0.076m**	Sink	**21.65kg/mm**
RL	**10.351m**	VCGM	**-0.095m**	WS	**28.31m²**
LSM0	**10.712m**	Displacement/Length ratio			**4.4567**

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SCORING OPTIONS

	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	**547.9**			**616.7**		
Time on Time	**1.0950**			**1.0946**		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	**638.2**	**501.2**	**446.7**	**822.5**	**616.4**	**544.0**
Time on Time	**1.0576**	**1.3469**	**1.5110**	**0.8207**	**1.0950**	**1.2407**

TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	**947.1**	**778.5**	**689.9**	**656.3**	**642.4**	**636.0**	**621.5**
52°	**624.6**	**523.4**	**482.5**	**467.6**	**461.3**	**457.8**	**449.2**
60°	**593.0**	**504.1**	**471.0**	**455.3**	**447.2**	**442.4**	**433.9**
75°	**570.2**	**492.2**	**462.0**	**441.7**	**425.5**	**415.8**	**407.0**
90°	**563.6**	**482.0**	**461.8**	**439.4**	**417.2**	**398.6**	**376.0**
110°	**551.8**	**471.5**	**439.0**	**419.0**	**402.6**	**388.0**	**360.3**
120°	**564.5**	**476.1**	**440.2**	**408.7**	**386.8**	**369.9**	**339.6**
135°	**634.6**	**508.1**	**459.8**	**427.1**	**394.2**	**362.0**	**306.9**
150°	**752.3**	**602.4**	**509.8**	**462.7**	**438.4**	**414.2**	**349.4**
Run VMG	**868.7**	**695.6**	**588.7**	**533.7**	**506.2**	**474.9**	**403.5**
Selected Courses							
Windward / Leeward	**907.9**	**737.1**	**639.3**	**595.0**	**574.3**	**555.4**	**512.5**
Circular Random	**769.7**	**624.0**	**546.9**	**502.6**	**474.8**	**454.9**	**423.7**
Coastal / Long Distance	**904.0**	**692.9**	**580.1**	**519.9**	**487.7**	**459.1**	**406.0**
Non Spinnaker	**847.7**	**679.0**	**587.4**	**533.2**	**499.0**	**475.5**	**442.9**

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°**	**41.0°**	**39.4°**	**37.9°**	**37.5°**	**37.3°**	**36.8°**
Beat VMG	**3.80**	**4.62**	**5.22**	**5.49**	**5.60**	**5.66**	**5.79**
52°	**5.76**	**6.88**	**7.46**	**7.70**	**7.80**	**7.86**	**8.01**
60°	**6.07**	**7.14**	**7.64**	**7.91**	**8.05**	**8.14**	**8.30**
75°	**6.31**	**7.31**	**7.79**	**8.15**	**8.46**	**8.66**	**8.84**
90°	**6.39**	**7.47**	**7.80**	**8.19**	**8.63**	**9.03**	**9.57**
110°	**6.52**	**7.63**	**8.20**	**8.59**	**8.94**	**9.28**	**9.99**
120°	**6.38**	**7.56**	**8.18**	**8.81**	**9.31**	**9.73**	**10.60**
135°	**5.67**	**7.09**	**7.83**	**8.43**	**9.13**	**9.94**	**11.73**
150°	**4.79**	**5.98**	**7.06**	**7.78**	**8.21**	**8.69**	**10.30**
Run VMG	**4.14**	**5.18**	**6.12**	**6.75**	**7.11**	**7.58**	**8.92**
Gybe Angles	**143.4°**	**146.5°**	**148.6°**	**151.7°**	**149.1°**	**176.5°**	**143.0°**

Rating Office

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Certificate

Number **US6294**
ORC Ref **USAX01CNICM**
Issued On **26/06/2018**
VPP Ver. **2018 1.00**
Valid until **31/12/2018**

Crew Weight

Default	759kg
Maximum	**759kg**
Minimum*	**569kg**

**when applied by the NoR and SI*

Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Non Spin GPH	**606.1**	**0.9899**
Non Spin OSN	**588.9**	**1.0189**

Sails Limitations

Headsails	Spinnakers
6	**4**

Class Division Length

CDL = **10.570**

Storm Sails Areas

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

Owner

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BOAT

Name	**ZUUL**	Sail Nr	**38012**
File	**US6294**	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	**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**
FSP	**0.060**	TPS	**6.556**	TL	**1.745**	MCG	**5.825**

MIZZEN RIG AND SAILS

N/A

COMMENTS

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	**159.2kg·m**
Limit of positive stability / Stab.Index	**118.9° / 115.4**
Freeboard at mast at 4.766	**1.182**

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**

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**
	0.050	1.40	2.46	3.81	4.47	52.54	54.12	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	19.19	16.90	18.05	11.22	11.29	168.93	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	Fly	Meas.Date	Material	Comment
0.06	0.72	1.32	2.47	3.56	4.61	15.01	36.22					DOYLE LT MED JIB

MEASUREMENT INVENTORY

Measurer
Date
Comment

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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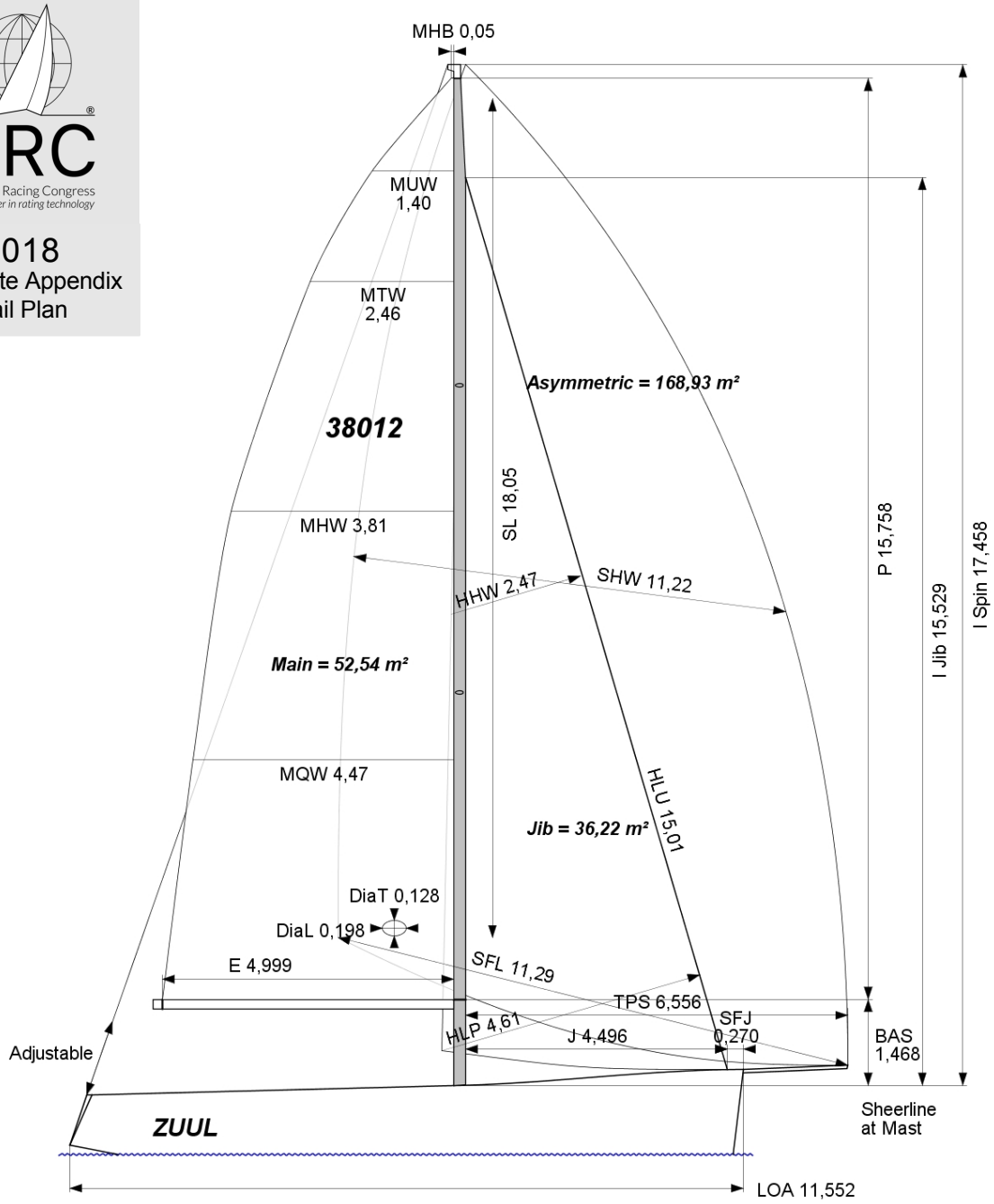
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1715762	0.05	1.40	2.46	3.81	4.47	52.55			NS		DOYLE MAINSAIL

HEADSAILS (1)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1715751	0.06	0.72	1.32	2.47	3.56	4.61	15.01	103%	36.22					JEFF TODD		DOYLE LT MED JIB

SYMMETRIC SPINNAKERS (0)

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

ASYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
1715743	19.19	16.90	18.05	11.22	11.29	168.94	asym			JEFF TODD		QUANTUM 2A

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