BOAT

Name **BLUE SHARK**
Sail Nr **GRE-1961**

GPH

609.1

GENERAL

Class	**GRAND SURPRISE**
Designer	**JOUBERT-NIVEL**
Builder	**ARCHAMBAULT**
Series	**10/1999**
Age	**01/2009**
Age Allow ance	**0.487%**
Offset File	**H00301.off - 27/06/2000 10:18:42**
Measurement by	**KALATZIS - 09/04/2009**

HULL

Length Overall	**9.550m**
Maximum Beam	**2.964m**
Displacement	**2,809kg**
Draft	**2.084m**
IMS Reg. Division	**Performance**
Dynamic Allow ance	**0.138%**
Fw d Accommodation	**Yes**
Hull Construction	**Solid**
Carbon Rudder	**No**
Crew Arm Extension	

IMSL	**9.350m**	VCGD	**-0.224m**	Sink	**14.69kg/mm**
RL	**9.116m**	VCGM	**-0.188m**	WS	**18.96m²**
LSM0	**9.398m**	Displacement/Length ratio			**3.3841**

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SCORING OPTIONS

	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	**591.1**			**665.1**		
Time on Time	**1.0150**			**1.0149**		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	**695.2**	**540.9**	**477.6**	**895.1**	**665.3**	**583.3**
Time on Time	**0.9710**	**1.2479**	**1.4134**	**0.7541**	**1.0146**	**1.1572**

TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	**1033.1**	**844.4**	**739.2**	**699.4**	**684.2**	**677.5**	**662.9**
52°	**683.4**	**568.0**	**522.6**	**505.2**	**497.7**	**493.6**	**483.9**
60°	**648.9**	**547.7**	**510.9**	**492.2**	**481.8**	**476.0**	**466.3**
75°	**623.9**	**535.0**	**502.0**	**477.5**	**456.9**	**444.9**	**435.0**
90°	**610.7**	**519.1**	**492.9**	**474.8**	**448.1**	**424.7**	**397.2**
110°	**603.7**	**512.3**	**474.3**	**442.9**	**423.5**	**405.9**	**374.3**
120°	**620.6**	**520.3**	**480.1**	**440.7**	**406.6**	**384.4**	**349.8**
135°	**693.6**	**558.5**	**503.3**	**467.7**	**429.3**	**390.4**	**319.2**
150°	**821.5**	**653.3**	**554.0**	**508.0**	**481.9**	**452.6**	**375.2**
Run VMG	**948.6**	**754.4**	**639.7**	**585.7**	**553.0**	**512.6**	**433.2**
Selected Courses							
Windward / Leeward	**990.8**	**799.4**	**689.5**	**642.5**	**618.6**	**595.0**	**548.1**
Circular Random	**837.2**	**676.7**	**591.2**	**541.6**	**509.9**	**486.9**	**450.7**
Coastal / Long Distance	**986.6**	**751.5**	**626.1**	**561.3**	**524.0**	**490.4**	**430.6**
Non Spinnaker	**920.2**	**734.2**	**632.9**	**573.0**	**535.2**	**509.3**	**473.2**

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	**42.0°**	**40.8°**	**38.8°**	**36.9°**	**36.2°**	**36.0°**	**35.7°**
Beat VMG	**3.48**	**4.26**	**4.87**	**5.15**	**5.26**	**5.31**	**5.43**
52°	**5.27**	**6.34**	**6.89**	**7.13**	**7.23**	**7.29**	**7.44**
60°	**5.55**	**6.57**	**7.05**	**7.31**	**7.47**	**7.56**	**7.72**
75°	**5.77**	**6.73**	**7.17**	**7.54**	**7.88**	**8.09**	**8.28**
90°	**5.89**	**6.94**	**7.30**	**7.58**	**8.03**	**8.48**	**9.06**
110°	**5.96**	**7.03**	**7.59**	**8.13**	**8.50**	**8.87**	**9.62**
120°	**5.80**	**6.92**	**7.50**	**8.17**	**8.85**	**9.36**	**10.29**
135°	**5.19**	**6.45**	**7.15**	**7.70**	**8.39**	**9.22**	**11.28**
150°	**4.38**	**5.51**	**6.50**	**7.09**	**7.47**	**7.95**	**9.60**
Run VMG	**3.80**	**4.77**	**5.63**	**6.15**	**6.51**	**7.02**	**8.31**
Gybe Angles	**143.7°**	**147.1°**	**149.1°**	**151.2°**	**174.3°**	**177.1°**	**141.9°**

Rating Office

Offshore Racing Congress

Invalid for Racing
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Certificate

Number **000331**
ORC Ref **GRE01009395**
Issued On **12/04/2018**
VPP Ver. **2018 1.00**
Valid until **28/02/2019**

Crew Weight

Default	630kg
Maximum	**630kg**
Minimum*	**473kg**

**when applied by the NoR and SI*

Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Non Spin GPH	**653.6**	**0.9180**
Non Spin OSN	**632.1**	**0.9492**

Sails Limitations

Headsails	Spinnakers
5	**3**

Class Division Length

CDL = **9.234**

Storm Sails Areas

Heavy Weather Jib	**20.99**
Storm Jib (JL=8.11)	**7.78**
Storm Trysail	**9.36**

Owner

BOAT

Name	**BLUE SHARK**	Sail Nr	**GRE-1961**
File	**GR1961**	Data in	**meters/kilograms**

RIG

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**		

P	**12.195**	E	**4.385**	MDT1	**0.106**	MW	**0.161**
IG	**12.463**	J	**3.423**	MDL1	**0.161**	GO	**0.163**
ISP	**13.533**	SFJ	**0.132**	MDT2	**0.072**	BD	**0.146**
BAS	**1.333**	SPL		MDL2	**0.130**	MWT	
FSP	**0.054**	TPS	**4.925**	TL	**0.350**	MCG	

MIZZEN RIG AND SAILS

N/A

COMMENTS

INCLINING TEST AND FREEBOARDS

Inclining Test **Current Inclining**

Flotation date **08/04/2009** SG **1.0270**

FFM	**0.949**	FF	**0.957**	SFFP	**0.230**
FAM	**0.703**	FA	**0.703**	SAFP	**9.178**
W1	**56.1**	PD1	**261.0**	WD	**9.190**
W2	**56.1**	PD2	**261.0**	GSA	**41.9**
W3	**56.1**	PD3	**261.0**	RSA	**6082.1**
W4	**56.1**	PD4	**261.0**	PLM	**2110.0**

LCF from stem on CL / on sheer	**5.312 / 5.509**
Maximum beam station from stem	**5.905**
RM Measured	**72.4kg·m**
RM Default	**67.5kg·m**
Limit of positive stability / Stab.Index	**115.6° / 112.8**
Freeboard at mast at 3.555	**0.776**

PROPELLER

Installation	**Shaft exposed**	PRD	**0.380**
Type	**Folding 2 blades**	PBW	**0.101**
Twin Screw	**No**	PIPA	**0.0040**

PSA	**16.386**	PHL	**0.114**	ST3	**0.086**	ESL	**0.805**
PSD	**0.025**	ST1	**0.017**	ST4	**0.048**		
PHD	**0.068**	ST2	**0.077**	ST5	**0.170**		

MOVABLE BALLAST

N/A

CENTERBOARD

N/A

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SAILS (Maximum Areas)

Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula
	0.165	0.92	1.67	2.84	3.72	32.03	32.74	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)

Symmetric
Not Available

Asymmetric	SLU	SLE	SL	SHW	SFL		
	15.07	12.76	13.91	7.78	7.95	90.61	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
0.09	0.55	1.03	1.91	2.76	3.61	12.30	23.10	Y		09/06/2016	Carbon	No 2
0.09	0.55	1.03	1.91	2.75	3.61	12.28	23.04			12/04/2013	Kevlar	No 1
0.11	0.56	1.02	1.90	2.77	3.57	12.18	22.80			16/04/2013	Kevlar	No 1 SL
0.10	0.45	0.83	1.60	2.39	3.14	11.51	18.47			09/04/2009	Kevlar	No 3
					2.87	10.65	15.56			09/04/2009	Dacron	No 4 (HW jib)

MEASUREMENT INVENTORY

Measurer **KALATZIS GRE-21**
Date **08/04/2009**
Comment

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*
~~1~~	~~Anchor~~	~~11.0~~	~~4.20~~		~~DELTA~~
~~2~~	~~Anchor~~	~~4.0~~	~~4.20~~		~~DANFORTH~~
~~1~~	~~Chain~~	~~15.0~~	~~4.20~~		~~8mm, 10m~~
~~2~~	~~Chain~~	~~15.0~~	~~4.20~~		~~8mm, 10m~~
~~1~~	~~Tools~~	~~10.0~~	~~4.40~~		

Id	*Item*	*Maker*	*Model*
1	Engine	NANNI	2.14 (14 HP)

Id	*Item*	*Weight*	*Description*

MEASUREMENT INVENTORY

Id	*Item*	*Tank Use*	*Tank Type*	*Capcty*	*Dist.*	*VCG*	*Condtn*	*Description*
1	Tank	FUEL	PVC hard	30.0	7.70		~~0.0~~	
2	Tank	WATER	PVC soft	40.0	3.40		~~0.0~~	

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*
1	Battery	30.0	4.90		70 Ah
2	Battery	24.5	4.90		50 Ah

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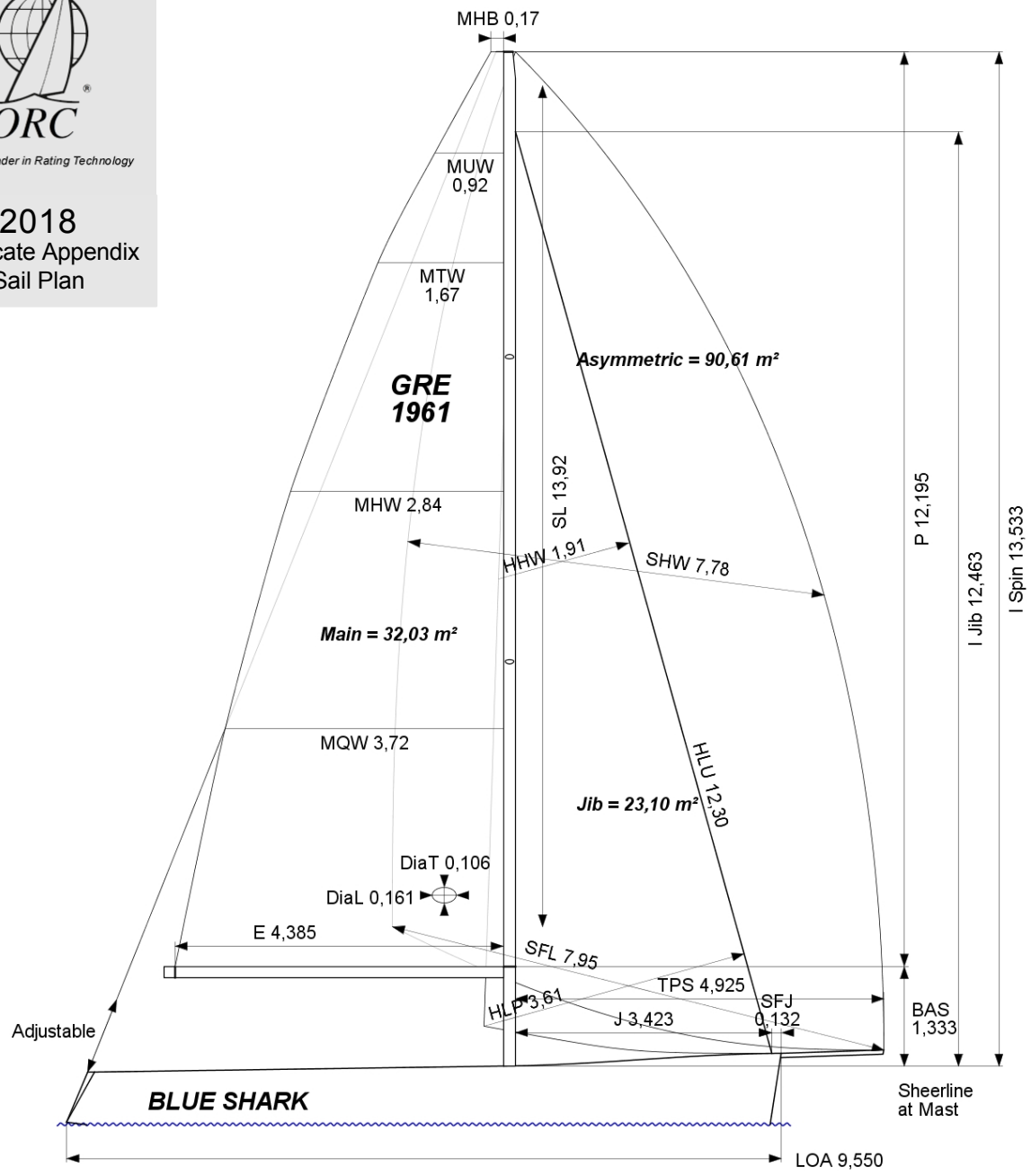
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.165	0.92	1.67	2.84	3.72	32.03	KALATZIS	09/06/2016	QUANTUM	Carbon	

HEADSAILS (5)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
2	0.09	0.55	1.03	1.91	2.76	3.61	12.30	105%	23.10	Y		KALATZIS	09/06/2016	QUANTUM	Carbon	No 2
1	0.09	0.55	1.03	1.91	2.75	3.61	12.28	105%	23.04			KALATZIS	12/04/2013	QUANTUM	Kevlar	No 1
1 SL	0.11	0.56	1.02	1.90	2.77	3.57	12.18	104%	22.80			KALATZIS	16/04/2013	QUANTUM	Kevlar	No 1 SL
3	0.10	0.45	0.83	1.60	2.39	3.14	11.51	92%	18.47			KALATZIS	09/04/2009	QUANTUM	Kevlar	No 3
4 (HW						2.87	10.65	84%	15.56			KALATZIS	09/04/2009	QUANTUM	Dacron	No 4 (HW jib)

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
2	15.07	12.76	13.91	7.78	7.95	90.61	asym	KALATZIS	03/04/2018	QUANTUM	Nylon	0.9
1	15.12	12.96	14.04	7.51	8.41	89.97	asym	KALATZIS	03/04/2018	QUANTUM	Nylon	0.5