BOAT

Name **ADRA**
Sail Nr **GRE-1221**

GPH

673.8

GENERAL

Class	**FIRST 31.7**
Designer	**FINOT**
Builder	**BENETEAU**
Series	**09/1998**
Age	**06/2000**
Age Allow ance	**0.487%**
Offset File	**GRE1221.OFF - 29/07/2019 13:35:08**
Measurement by	**- 04/02/2003**

HULL

Length Overall	**9.490m**
Maximum Beam	**3.216m**
Displacement	**3,842kg**
Draft	**1.934m**
Plan Review	
IMS Reg. Division	**Cruiser/Racer**
Dynamic Allow ance	**0.320%**
Hull Construction	**Solid**
Carbon Rudder	**No**
Crew Arm Extension	

IMSL	**8.990m**	VCGD	**0.170m**	Sink	**15.81kg/mm**
RL	**7.567m**	VCGM	**0.121m**	WS	**20.67m²**
LSM0	**8.942m**	Displacement/Length ratio			**5.3735**

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SCORING OPTIONS

	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	**652.2**			**726.3**		
Time on Time	**0.9199**			**0.9294**		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	**780.9**	**594.5**	**527.8**	**1007.9**	**731.3**	**631.1**
Time on Time	**0.8644**	**1.1355**	**1.2790**	**0.6697**	**0.9230**	**1.0695**

TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	**1143.9**	**946.0**	**833.4**	**767.6**	**744.6**	**736.7**	**744.5**
52°	**747.2**	**631.9**	**567.8**	**539.1**	**527.4**	**523.4**	**522.6**
60°	**707.3**	**602.0**	**550.1**	**526.4**	**514.0**	**508.7**	**506.5**
75°	**680.6**	**580.4**	**537.1**	**515.4**	**499.9**	**488.0**	**478.1**
90°	**690.5**	**582.4**	**528.9**	**506.1**	**495.1**	**478.3**	**451.6**
110°	**694.0**	**572.4**	**522.2**	**495.3**	**470.9**	**450.5**	**429.1**
120°	**716.5**	**587.5**	**528.7**	**500.1**	**474.5**	**449.1**	**408.2**
135°	**794.4**	**644.6**	**557.8**	**518.7**	**493.2**	**467.3**	**417.2**
150°	**941.0**	**740.8**	**625.6**	**553.6**	**518.7**	**494.8**	**447.1**
Run VMG	**1086.5**	**855.4**	**721.2**	**630.9**	**568.3**	**528.4**	**481.2**
Selected Courses							
Windward / Leeward	**1115.2**	**900.7**	**777.3**	**699.3**	**656.4**	**632.5**	**612.9**
Circular Random	**934.9**	**752.0**	**653.2**	**595.7**	**560.6**	**538.2**	**512.2**
Coastal / Long Distance	**1112.3**	**846.2**	**700.1**	**612.5**	**569.9**	**537.7**	**486.3**
Non Spinnaker	**991.1**	**791.5**	**682.5**	**618.4**	**579.0**	**554.0**	**525.0**

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°**	**41.1°**	**40.5°**	**39.4°**	**38.4°**	**38.3°**	**39.0°**
Beat VMG	**3.15**	**3.81**	**4.32**	**4.69**	**4.83**	**4.89**	**4.84**
52°	**4.82**	**5.70**	**6.34**	**6.68**	**6.83**	**6.88**	**6.89**
60°	**5.09**	**5.98**	**6.54**	**6.84**	**7.00**	**7.08**	**7.11**
75°	**5.29**	**6.20**	**6.70**	**6.98**	**7.20**	**7.38**	**7.53**
90°	**5.21**	**6.18**	**6.81**	**7.11**	**7.27**	**7.53**	**7.97**
110°	**5.19**	**6.29**	**6.89**	**7.27**	**7.65**	**7.99**	**8.39**
120°	**5.02**	**6.13**	**6.81**	**7.20**	**7.59**	**8.02**	**8.82**
135°	**4.53**	**5.58**	**6.45**	**6.94**	**7.30**	**7.70**	**8.63**
150°	**3.83**	**4.86**	**5.75**	**6.50**	**6.94**	**7.28**	**8.05**
Run VMG	**3.31**	**4.21**	**4.99**	**5.71**	**6.33**	**6.81**	**7.48**
Gybe Angles	**146.0°**	**150.0°**	**152.0°**	**157.0°**	**176.0°**	**180.0°**	**180.0°**

Rating Office

Hellenic Sailing Federation Offshore Committee
Επιτροπή Ανοικτής Θαλάσσης Ελληνικής Ιστιοπλοϊκής Ομοσπονδίας

Certificate

Number	**00383**
ORC Ref	**03420000KC2**
Issued On	**10/06/2020**
VPP Ver.	**2020 1.02**
Valid until	**28/02/2021**

Crew Weight

Default	587kg
Maximum	**480kg**
Minimum*	**360kg**

**when applied by the NoR and SI*

Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Non Spin GPH	**704.9**	**0.8512**
Non Spin OSN	**680.7**	**0.8815**

Sails Limitations

Headsails	Spinnakers
5	**4**

Class Division Length

CDL = **8.275**

Storm Sails Areas

Heavy Weather Jib	**18.87**
Storm Jib (JL=7.69)	**6.99**
Storm Trysail	**7.38**

Owner

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BOAT

Name	**ADRA**	Sail Nr	**GRE-1221**
File	**GR1221**	Data in	**meters/kilograms**

RIG

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

P	**10.800**	E	**3.900**	MDT1	**0.105**	MW	**0.159**
IG	**11.764**	J	**3.485**	MDL1	**0.159**	GO	**0.176**
ISP	**11.864**	SFJ	**0.045**	MDT2	**0.105**	BD	**0.111**
BAS	**1.754**	SPL	**3.464**	MDL2	**0.159**	MWT	
FSD	**0.031**	TPS		TL	**0.000**	MCG	

INCLINING TEST AND FREEBOARDS

Inclining Test **Current Inclining**

Flotation date **26/07/2019** SG **1.0280**

FFM	**1.162**	FF	**1.159**	SFFP	**0.303**
FAM	**0.963**	FA	**0.966**	SAFP	**8.732**
W1	**57.9**	PD1	**563.8**	WD	**9.750**
W2	**57.9**	PD2	**564.1**	GSA	**1.0**
W3	**57.9**	PD3	**563.8**	RSA	**1.0**
W4	**57.9**	PD4	**568.0**	PLM	**9000.0**

LCF from stem on CL / on sheer	**5.299 / 5.531**
Maximum beam station from stem	**6.386**
RM Measured	**78.7kg·m**
RM Default	**77.5kg·m**
Limit of positive stability / Stab.Index	**110.1° / 108.8**
Freeboard at mast at 3.530	**1.040**

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MIZZEN RIG AND SAILS

N/A

PROPELLER

Installation	**Strut**	PRD	**0.400**
Type	**Feathering 3 blades**	PBW	**0.101**
Twin Screw	**No**	PIPA	**0.0032**

ST1	**0.048**	ST3	**0.170**	ST5	**0.290**
ST2	**0.170**	ST4	**0.096**	EDL	**2.520**

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COMMENTS

MOVABLE BALLAST

N/A

CENTERBOARD

N/A

SAILS (Maximum Areas)

Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula
	0.15	0.83	1.49	2.49	3.29	25.11	25.66	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)
Symmetric	**SLU**	**SLE**	**SL**	**SHW**	**SFL**			
	11.70	11.70	11.70	6.37	6.00	61.39		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	Flying	Meas.Date	Material	Comment
0.07	0.59	1.14	2.29	3.50	4.79	11.33	26.56		No	05/06/2020	Kevlar	
0.09	0.57	1.07	1.96	2.74	3.56	11.71	22.09		No	04/09/2009	Unknow	
0.07	0.44	0.84	1.69	2.59	3.52	11.59	20.06	Y	No	12/03/2016	Kevlar	

MEASUREMENT INVENTORY

Measurer **GRE-21**
Date **26/07/2019**
Comment
Internal Ballast total = 0.0

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

Id	*Item*	*Maker*	*Model*
1	Engine	VOLVO PENTA	MD2020 (18

Id	*Item*	*Weight*	*Description*

MEASUREMENT INVENTORY

Id	*Item*	*Tank Use*	*Tank Type*	*Capcty*	*Dist.*	*VCG*	*Condtn*	*Description*
1	Tank	FUEL	PVC hard	30.0	7.00		~~25.0~~	
2	Tank	FUEL	Inox	40.0	7.00		~~0.0~~	
2	Tank	WATER	PVC hard	180.0	1.80		~~0.0~~	

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*
1	Battery		6.00		2 x 75 Ah
1	Misc		7.00		WATER HEATER
2	Misc		7.00		ELECTRICAL GENERATOR
3	Misc		0.80		ANCHOR WINDLASS 1000W

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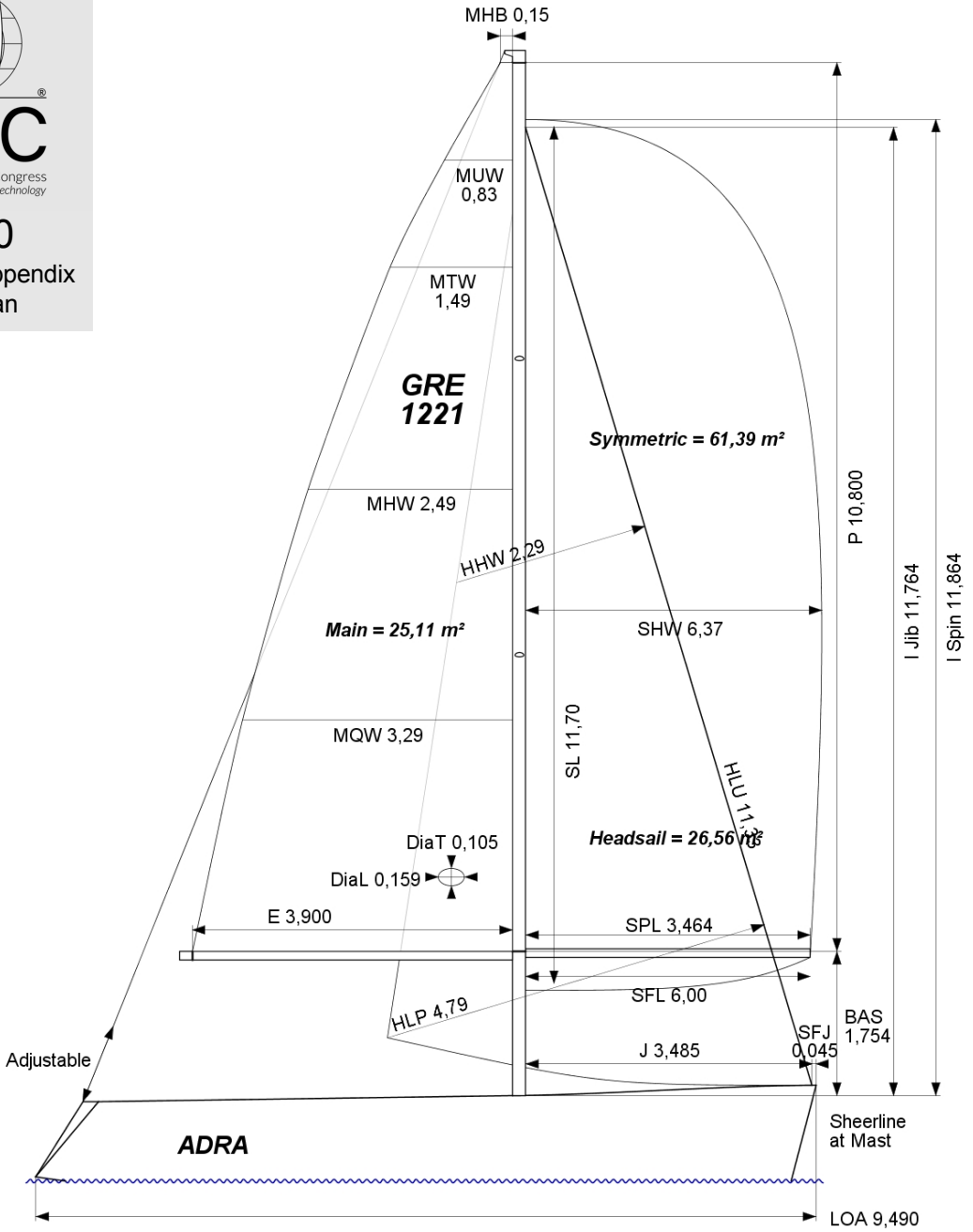
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.15	0.83	1.49	2.49	3.29	25.11		05/06/2020	QUANTUM	Carbon	

HEADSAILS (3)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.07	0.59	1.14	2.29	3.50	4.79	11.33	137%	26.56		No		05/06/2020	QUANTUM	Kevlar	
5	0.09	0.57	1.07	1.96	2.74	3.56	11.71	102%	22.09		No		04/09/2009		Unknow	
3a	0.07	0.44	0.84	1.69	2.59	3.52	11.59	101%	20.06	Y	No		12/03/2016	QUANTUM	Kevlar	

SYMMETRIC SPINNAKERS (3)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
2	11.70	11.70	11.70	6.37	6.00	61.39		04/10/2017		Unknown	
3	11.70	11.70	11.70	6.33	6.04	61.16		05/05/2017		Unknown	
4	11.68	11.68	11.68	6.22	6.08	60.27		10/11/2010		Unknown	

ASYMMETRIC SPINNAKERS (0)

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

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