

BOAT Name Polar 2 Sail Nr CZE 438	GPH 579.0	HULL Length Overall 12.240m Maximum Beam 3.902m Displacement 7,774kg Draft 2.481m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.181% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder No Crew Arm Extension
GENERAL Class First 40 Designer Farr Builder Beneteau Series 10/2009 Age 09/2010 Age Allowance 0.325% Offset File F240.OFF - 23/01/2009 10:12:46 Measurement by - 30/04/2019		IMSL 11.220m VCGD -0.123m Sink 24.02kg/mm RL 10.005m VCGM -0.146m WS 32.83m² LSM0 11.038m Displacement/Length ratio 5.7806



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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	564.2			631.2		
Time on Time	1.0634			1.0694		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	664.2	512.9	456.3	868.9	634.3	547.4
Time on Time	1.0162	1.3160	1.4793	0.7768	1.0641	1.2332

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	994.2	817.2	716.7	667.6	649.7	641.9	625.6
52°	650.5	545.9	491.3	469.7	461.5	457.6	452.3
60°	609.3	510.0	474.8	458.7	449.2	444.9	441.3
75°	550.8	478.2	452.7	442.0	434.8	425.7	416.9
90°	535.7	471.9	447.5	429.9	414.5	406.2	393.1
110°	584.5	491.7	452.6	429.9	412.8	392.5	366.1
120°	609.0	500.9	457.1	432.1	408.2	387.3	359.7
135°	673.9	545.6	478.1	448.1	424.8	400.7	353.8
150°	801.4	640.1	538.9	479.1	450.5	428.7	384.7
Run VMG	925.3	739.1	622.3	547.9	500.6	464.4	420.6

Certificate
Number **035/19**
ORC Ref **CRO00090634**
Issued On **29/05/2019**
VPP Ver. **2019 1.01**
Valid until **31/12/2019**

Crew Weight
Default **792kg**
Maximum **785kg**
Minimum* **589kg**
**when applied by the NoR and SI*
Non Manual Pwr

Special Scoring

ToD	ToT
Non Spin GPH 620.0	0.9677
Non Spin OSN 600.9	0.9985

Selected Courses							
Windward / Leeward	959.8	778.2	669.5	607.7	575.2	553.1	523.1
Circular Random	797.1	643.9	561.8	514.2	484.7	465.0	438.5
Coastal / Long Distance	956.3	728.7	602.6	530.9	494.4	466.5	422.0
Non Spinnaker	872.6	696.5	600.3	543.5	508.0	484.5	453.8

Sails Limitations	
Headsails 6	Spinnakers 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	42.8°	41.0°	40.3°	38.9°	38.1°	37.7°	37.7°
Beat VMG	3.62	4.41	5.02	5.39	5.54	5.61	5.75
52°	5.53	6.59	7.33	7.66	7.80	7.87	7.96
60°	5.91	7.06	7.58	7.85	8.01	8.09	8.16
75°	6.54	7.53	7.95	8.14	8.28	8.46	8.63
90°	6.72	7.63	8.04	8.37	8.69	8.86	9.16
110°	6.16	7.32	7.95	8.37	8.72	9.17	9.83
120°	5.91	7.19	7.88	8.33	8.82	9.29	10.01
135°	5.34	6.60	7.53	8.03	8.48	8.98	10.18
150°	4.49	5.62	6.68	7.51	7.99	8.40	9.36
Run VMG	3.89	4.87	5.79	6.57	7.19	7.75	8.56
Gybe Angles	141.3°	147.6°	148.8°	155.2°	167.9°	180.0°	180.0°

Class Division Length
CDL = **10.614**

Storm Sails Areas
Heavy Weather Jib **36.90**
Storm Jib (JL=10.75) **13.67**
Storm Trysail **15.64**

Owner

BOAT	
Name Polar 2	Sail Nr CZE 438
File CZE438	Data in meters/kilograms

RIG	
Forestay Tension Aft	Spreaders 3
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 16.160	E 5.530 MDT1 0.130 MW 0.234
IG 16.445	J 4.580 MDL1 0.234 GO 0.258
ISP 16.735	SFJ MDT2 0.130 BD 0.218
BAS 1.665	SPL 5.070 MDL2 0.185 MWT
FSP 0.066	TPS 5.010 TL 1.060 MCG

INCLINING TEST AND FREEBOARDS		
Inclining Test Current Inclining		
Flotation date 30/03/2019	SG 1.0290	
FFM 1.370	FF 1.367	SFFP 0.261
FAM 1.068	FA 1.070	SAFP 11.831
W1 120.9	PD1 514.7	WD 11.370
W2 120.9	PD2 520.5	GSA 1.0
W3 120.9	PD3 518.7	RSA 1.0
W4 120.9	PD4 517.5	PLM 9000.0
LCF from stem on CL / on sheer		6.657 / 6.913
Maximum beam station from stem		7.802
RM Measured		209.0kg-m
RM Default		198.5kg-m
Limit of positive stability / Stab.Index		126.4° / 129.2
Freeboard at mast at 4.580		1.250



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MIZZEN RIG AND SAILS	
N/A	

PROPELLER		
Installation Strut	PRD 0.476	
Type Folding 2 blades	PBW 0.122	
Twin Screw No	PIPA 0.0038	
ST1 0.050	ST3 0.180	ST5 0.310
ST2 0.180	ST4 0.112	EDL 2.212

Certificate	
Number 035/19	
ORC Ref CRO00090634	
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VPP Ver. 2019 1.01	
Valid until 31/12/2019	

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	
	0.170	1.08	1.95	3.43	4.55	51.67	52.50	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL	131.51		SL · (SFL + 4·SHW) / 6	
	17.38	17.38	17.38	9.16	8.76				
Asymmetric	Not Available								

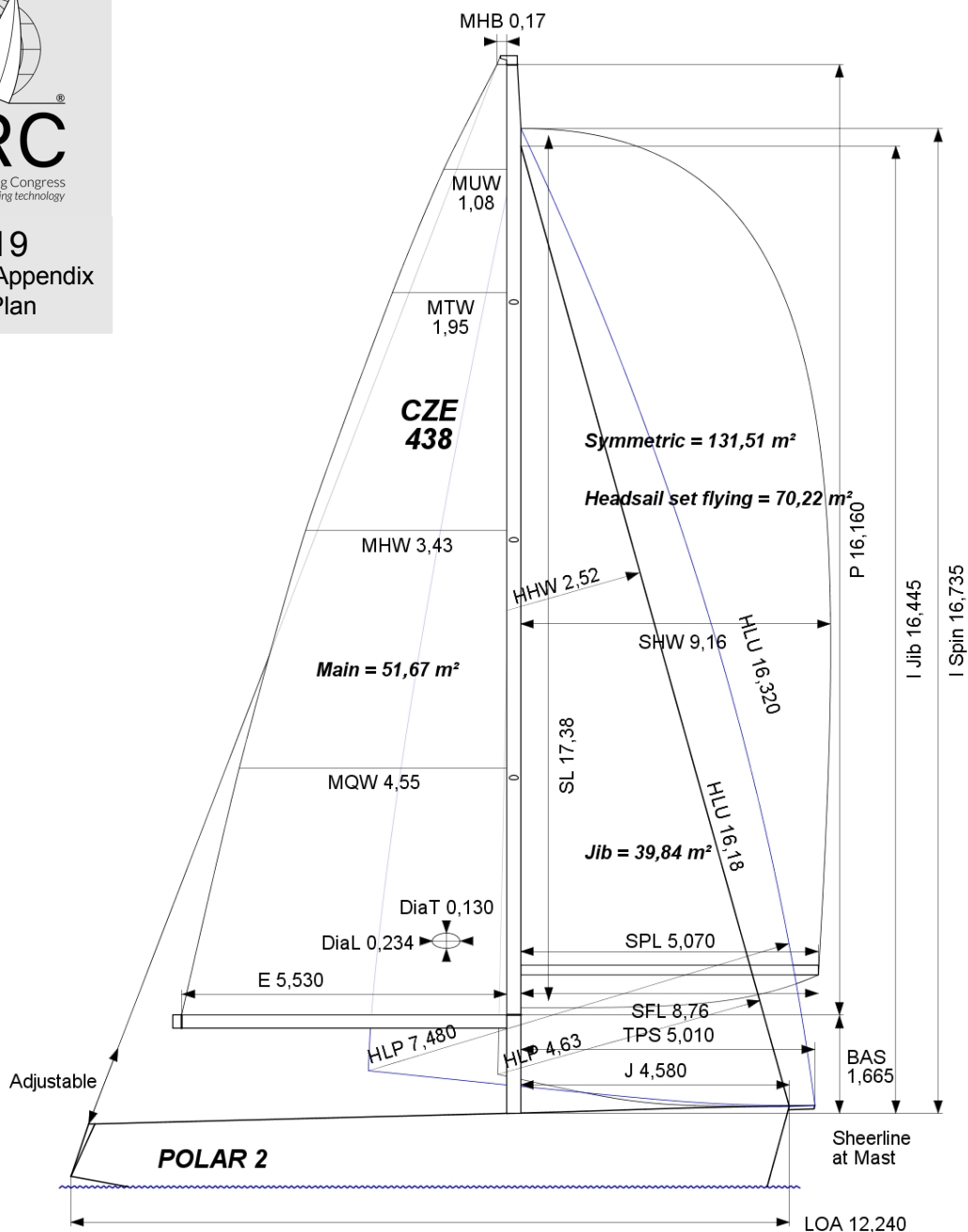
HEADSAILS												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
HHB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment
0.10	1.34	2.58	4.74	6.35	7.48	16.32	70.22		Y	08/04/2019	Kevlar	
0.12	0.78	1.44	2.52	3.58	4.63	16.18	39.85	Y		08/04/2019	Carbon	L
0.13	0.76	1.40	2.49	3.54	4.62	16.35	39.84	Y		08/04/2019	Carbon	M
0.11	0.69	1.30	2.43	3.51	4.59	16.30	38.89	N		08/04/2019	Carbon	H

MEASUREMENT INVENTORY				
Measurer CRO 5				
Date 30/03/2019				
Comment				
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>
<i>Id</i>	<i>Item</i>	<i>Maker</i>	<i>Model</i>	
1	Engine	Yanmar	3JH5E	
<i>Id</i>	<i>Item</i>	<i>Weight Description</i>		

MEASUREMENT INVENTORY							
<i>Id</i>	<i>Item</i>	<i>Tank Use</i>	<i>Tank Type</i>	<i>Capcty</i>	<i>Dist.</i>	<i>VCG</i>	<i>Condtn Description</i>
4	Tank	Holding	PVC FIX	80.0	3.50		0-0 stb side
3	Tank	Disel	PVC FIX	138.0	9.50		20-0 center line
2	Tank	Water	PVC FIX	100.0	5.60		0-0 stb side
1	Tank	Water	PVC FIX	100.0	5.60		0-0 port side
<i>Id</i>	<i>Item</i>	<i>Weight</i>	<i>Distance</i>	<i>VCG Description</i>			
2	Battery		6.80	1 x 85 Ah centerline			
1	Battery		8.85	2 x 95 Ah STB side			



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Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.17	1.08	1.95	3.43	4.55	51.68		08/04/2019	North sails	Carbon	

HEADSAILS (4)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.10	1.34	2.58	4.74	6.35	7.48	16.32	163%	70.22		Y		08/04/2019	North sails	Kevlar	
4	0.12	0.78	1.44	2.52	3.58	4.63	16.18	101%	39.85	Y			08/04/2019	North sails	Carbon	L
3	0.13	0.76	1.40	2.49	3.54	4.62	16.35	101%	39.84	Y			08/04/2019	North sails	Carbon	M
2	0.11	0.69	1.30	2.43	3.51	4.59	16.30	100%	38.89	N			08/04/2019	North sails	Carbon	H

SYMMETRIC SPINNAKERS (3)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
3	17.38	17.38	17.38	9.16	8.76	131.51		02/10/2015	north sails	Nylon	
1	17.20	17.20	17.20	9.16	9.00	130.84			North sails	Nylon	
2	17.20	17.20	17.20	9.16	8.96	130.72		02/10/2015	nort sails	Nylon	

ASYMMETRIC SPINNAKERS (0)

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