BOAT

Name **Espresso Martini**
Sail Nr **BUL-545**

GPH

516.3

GENERAL

Class	**Farr 45**
Designer	**Bruce Farr**
Builder	**Corel**
Series	**09/1996**
Age	**11/1997**
Age Allow ance	**0.487%**
Offset File	**BEAU.OFF - 12/12/1996 07:03:56**
Measurement by	**- 21/05/2019**

HULL

Length Overall	**13.801m**
Maximum Beam	**4.188m**
Displacement	**7,203kg**
Draft	**2.897m**
Plan Review	
IMS Reg. Division	**Performance**
Dynamic Allow ance	**0.000%**
Hull Construction	**Light**
Carbon Rudder	**Yes**
Crew Arm Extension	

IMSL	**12.397m**	VCGD	**-0.509m**	Sink	**26.08kg/mm**
RL	**12.244m**	VCGM	**-0.527m**	WS	**35.34m²**
LSM0	**12.172m**	Displacement/Length ratio			**3.9942**

SCORING OPTIONS

	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	**502.8**			**564.4**		
Time on Time	**1.1934**			**1.1960**		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	**583.6**	**460.5**	**407.7**	**754.4**	**568.5**	**496.3**
Time on Time	**1.1567**	**1.4658**	**1.6558**	**0.8948**	**1.1874**	**1.3600**

TIME ALLOWANCES

Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	**837.6**	**687.7**	**627.2**	**603.5**	**591.6**	**578.1**	**570.5**
52°	**549.5**	**463.4**	**438.3**	**429.3**	**424.2**	**419.7**	**410.7**
60°	**518.5**	**448.0**	**426.2**	**416.2**	**409.9**	**405.7**	**392.9**
75°	**494.6**	**438.2**	**414.2**	**396.3**	**385.8**	**379.0**	**369.3**
90°	**499.3**	**439.6**	**413.7**	**389.7**	**370.2**	**356.6**	**342.9**
110°	**527.1**	**441.9**	**408.6**	**387.6**	**370.1**	**355.1**	**320.3**
120°	**543.6**	**448.2**	**411.8**	**380.3**	**357.9**	**341.7**	**309.2**
135°	**604.5**	**483.8**	**431.6**	**400.7**	**369.8**	**339.2**	**283.8**
150°	**720.5**	**571.7**	**483.9**	**435.1**	**406.4**	**377.9**	**321.0**
Run VMG	**832.0**	**660.1**	**558.7**	**497.1**	**458.3**	**426.4**	**372.2**
Selected Courses							
Windward / Leeward	**834.8**	**673.9**	**593.0**	**550.3**	**525.0**	**502.2**	**471.3**
Circular Random	**705.4**	**572.1**	**501.6**	**460.6**	**434.3**	**415.5**	**388.1**
Coastal / Long Distance	**834.5**	**634.5**	**536.4**	**479.3**	**446.8**	**417.9**	**370.5**
Non Spinnaker	**758.4**	**610.0**	**529.8**	**482.3**	**451.8**	**430.6**	**401.7**

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°**	**39.0°**	**38.3°**	**37.5°**	**36.8°**	**36.8°**
Beat VMG	**4.30**	**5.23**	**5.74**	**5.97**	**6.09**	**6.23**	**6.31**
52°	**6.55**	**7.77**	**8.21**	**8.39**	**8.49**	**8.58**	**8.77**
60°	**6.94**	**8.04**	**8.45**	**8.65**	**8.78**	**8.87**	**9.16**
75°	**7.28**	**8.22**	**8.69**	**9.08**	**9.33**	**9.50**	**9.75**
90°	**7.21**	**8.19**	**8.70**	**9.24**	**9.72**	**10.10**	**10.50**
110°	**6.83**	**8.15**	**8.81**	**9.29**	**9.73**	**10.14**	**11.24**
120°	**6.62**	**8.03**	**8.74**	**9.47**	**10.06**	**10.54**	**11.64**
135°	**5.96**	**7.44**	**8.34**	**8.98**	**9.74**	**10.61**	**12.69**
150°	**5.00**	**6.30**	**7.44**	**8.27**	**8.86**	**9.53**	**11.21**
Run VMG	**4.33**	**5.45**	**6.44**	**7.24**	**7.85**	**8.44**	**9.67**
Gybe Angles	**142.5°**	**142.8°**	**148.0°**	**155.0°**	**164.0°**	**180.0°**	**151.0°**

ORC
Offshore Racing Congress
World leader in rating technology

2020

ORC International Certificate

Rating Office

Offshore Racing Congress

Certificate

Number **009/20**
ORC Ref **0385000014A**
Issued On **13/05/2020**
VPP Ver. **2020 1.01**
Valid until **31/12/2020**

Crew Weight

Default	911kg
Maximum	**850kg**
Minimum*	**638kg**

**when applied by the NoR and SI*

Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Non Spin GPH	**546.2**	**1.0985**
Non Spin OSN	**533.7**	**1.1242**

Sails Limitations

Headsails	Spinnakers
7	**5**

Class Division Length

CDL = **12.314**

Storm Sails Areas

Heavy Weather Jib	**44.40**
Storm Jib (JL=11.79)	**16.45**
Storm Trysail	**22.33**

Owner

BOAT

Name **Espresso Martini** Sail Nr **BUL-545**
File **bul545** Data in **meters/kilograms**

RIG

Forestay Tension	**Aft**	Spreaders	**3**
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	**18.790**	E	**6.790**	MDT1	**0.130**	MW	**0.239**
IG	**18.018**	J	**5.475**	MDL1	**0.239**	GO	**0.274**
ISP	**19.218**	SFJ	**0.000**	MDT2	**0.095**	BD	**0.295**
BAS	**1.928**	SPL	**5.180**	MDL2	**0.147**	MWT	**250.00**
FSD	**0.040**	TPS		TL	**2.330**	MCG	**6.247**

INCLINING TEST AND FREEBOARDS

Inclining Test **Current Inclining**
Flotation date **21/05/2019** SG **1.0140**

FFM	**1.465**	FF	**1.475**	SFFP	**0.201**
FAM	**1.121**	FA	**1.125**	SAFP	**13.110**
W1	**28.3**	PD1	**27.0**	WD	**11.010**
W2	**58.4**	PD2	**68.0**	GSA	**50.3**
W3	**87.1**	PD3	**107.0**	RSA	**18800.**
W4	**117.3**	PD4	**147.0**	PLM	**2000.0**

LCF from stem on CL / on sheer	**7.634 / 7.884**
Maximum beam station from stem	**8.733**
RM Measured	**284.8kg·m**
RM Default	**253.9kg·m**
Limit of positive stability / Stab.Index	**136.0° / 135.3**
Freeboard at mast at 5.475	**1.283**

ORC
Offshore Racing Congress
World leader in rating technology

2020
IMS Measurement Certificate

MIZZEN RIG AND SAILS

N/A

PROPELLER

Installation	**Strut**			PRD	**0.425**
Type	**Folding 2 blades**			PBW	**0.111**
Twin Screw	**No**			PIPA	**0.0038**
ST1	**0.042**	ST3	**0.180**	ST5	**0.275**
ST2	**0.180**	ST4	**0.112**	EDL	**0.729**

Certificate

Number **009/20**
ORC Ref **0385000014A**
Issued On **13/05/2020**
VPP Ver. **2020 1.01**
Valid until **31/12/2020**

COMMENTS

MOVABLE BALLAST

N/A

CENTERBOARD

N/A

SAILS (Maximum Areas)

Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula
	0.27	1.38	2.50	4.30	5.59	74.77	76.24	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)
Symmetric	**SLU**	**SLE**	**SL**	**SHW**	**SFL**			
	18.99	18.99	18.99	10.65	10.56	168.25		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
0.10	0.79	1.54	2.96	4.42	5.85	17.96	53.27	Y	No	12/05/2019	Kevlar	Jib1 Quantum
0.12	0.78	1.51	2.95	4.33	5.92	17.86	52.68	Y	No	12/05/2019	Carbon	Jib 1 NS
0.15	0.78	1.49	2.87	4.24	5.87	18.05	52.37	Y	No	12/05/2019	Carbon	3DL NS

MEASUREMENT INVENTORY

Measurer
Date **21/05/2019**
Comment
Internal Ballast total = 0.0

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*
~~1~~	~~Anchor Chain~~	~~45.0~~	~~4.34~~		~~Anchor with~~

Id	*Item*	*Maker*	*Model*
1	Engine	Yanmar	4GMSD40

Id	*Item*	*Weight*	*Description*

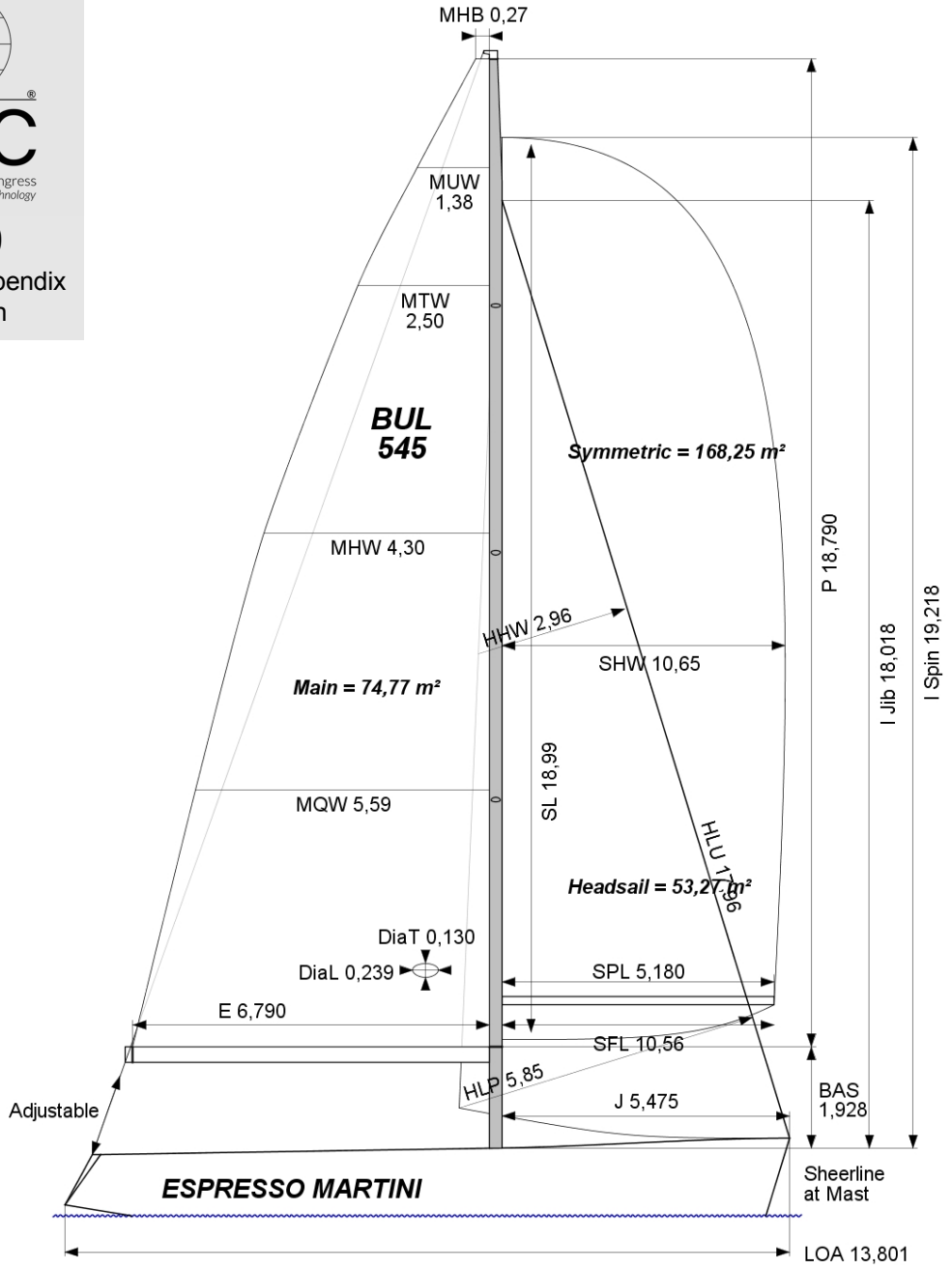
MEASUREMENT INVENTORY

Id	*Item*	*Tank Use*	*Tank Type*	*Capcty*	*Dist.*	*VCG*	*Condtn*	*Description*
1	Tank	Fuel	Plastic	80.0	9.70		~~40.0~~	Half full
2	Tank	Water	PVC	80.0	8.00		~~0.0~~	Empty
3	Tank	Water	PVC	80.0	8.00		~~0.0~~	Empty

Id	*Item*	*Weight*	*Distance*	*VCG*	*Description*
1	Battery	36.0	8.22		Service batteries 3 pcs. port
2	Battery	12.0	8.22		Engine battery 1 pcs strb

ORC
Offshore Racing Congress
World leader in rating technology

2020
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (2)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
2	0.27	1.38	2.50	4.30	5.59	74.78		12/05/2019	AP Sails	Dacron	Training
1	0.27	1.38	2.50	4.30	5.59	74.78		12/05/2019	North Sails	Carbon	3DL racing

HEADSAILS (3)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Flying	Measurer	Meas.Date	Manufacture	Material	Comment
1	0.10	0.79	1.54	2.96	4.42	5.85	17.96	107%	53.27	Y	No		12/05/2019	Quantum	Kevlar	Jib1 Quantum
2	0.12	0.78	1.51	2.95	4.33	5.92	17.86	108%	52.68	Y	No		12/05/2019	North Sails	Carbon	Jib 1 NS
3	0.15	0.78	1.49	2.87	4.24	5.87	18.05	107%	52.37	Y	No		12/05/2019	North Sials	Carbon	3DL NS

SYMMETRIC SPINNAKERS (2)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
2	18.99	18.99	18.99	10.65	10.56	168.26		17/05/2019	ISI	Nylon	
1	17.68	17.68	17.68	7.43	9.26	114.87		12/05/2019		Nylon	S5 Heavy

ASYMMETRIC SPINNAKERS (0)

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