

BOAT Name TIBURON Sail Nr ECU-4223	GPH 541,2	HULL Length Overall 12,960m Maximum Beam 3,910m Displacement 7.869kg Draft 2,752m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0,000% Fwd Accommodation No Hull Construction Cored Carbon Rudder Yes Crew Arm Extension
GENERAL Class SWAN 42 CLUB Designer FRERS Builder NAUTOR Series 02/2006 Age 02/2007 Age Allowance 0,422% Offset File SWAN42CS+.OFF - 19/02/2015 Measurement by P. GUTIERREZ - 28/09/2017		IMSL 11,894m VCGD -0,474m Sink 24,66kg/mm RL 11,393m VCGM -0,378m WS 33,36m² LSM0 11,628m Displacement/Length ratio 5,0050



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Rating Office
Federación Ecuatoriana de Vela
Patricio D. Gutiérrez - RO
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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	Low	Medium	High	Low	Medium	High
Time on Distance	526,8			590,4		
Time on Time	1,1390			1,1432		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	609,1	482,4	434,3	783,6	591,2	525,0
Time on Time	1,1082	1,3993	1,5542	0,8614	1,1417	1,2857

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	889,8	733,4	655,6	625,6	611,8	603,2	589,0
52°	586,8	494,8	460,0	447,6	441,9	438,8	431,1
60°	556,4	477,6	449,4	436,5	430,2	426,3	419,4
75°	533,1	466,7	441,2	425,1	412,5	404,6	397,1
90°	537,9	465,2	440,5	422,2	404,9	389,5	369,5
110°	537,5	456,6	426,7	409,9	396,7	383,8	358,5
120°	550,4	461,4	428,6	402,3	381,7	367,3	339,7
135°	612,1	493,4	445,2	418,2	390,5	362,8	309,7
150°	727,2	581,5	493,9	447,9	427,4	407,0	355,2
Run VMG	839,7	671,4	570,3	516,7	492,0	461,8	410,1

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VPP Ver. **2019 1.01**
Valid until **31/03/2020**

Crew Weight
Default **854kg**
Maximum **862kg**
Minimum* **647kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring
ToD ToT
Non Spin GPH **579,7** **1,0350**
Non Spin OSN **565,3** **1,0614**

Selected Courses							
Windward / Leeward	864,7	702,4	612,9	571,1	551,9	532,5	499,6
Circular Random	735,7	597,8	525,6	484,6	459,3	441,6	414,7
Coastal / Long Distance	862,2	661,2	556,5	500,4	471,3	445,0	399,1
Non Spinnaker	806,4	647,9	562,1	511,6	479,8	458,4	429,8

Sails Limitations
Headsails **7** Spinnakers **5**

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	42,2°	40,6°	39,1°	37,6°	37,2°	36,5°	36,2°
Beat VMG	4,05	4,91	5,49	5,75	5,88	5,97	6,11
52°	6,13	7,28	7,83	8,04	8,15	8,20	8,35
60°	6,47	7,54	8,01	8,25	8,37	8,44	8,58
75°	6,75	7,71	8,16	8,47	8,73	8,90	9,07
90°	6,69	7,74	8,17	8,53	8,89	9,24	9,74
110°	6,70	7,88	8,44	8,78	9,07	9,38	10,04
120°	6,54	7,80	8,40	8,95	9,43	9,80	10,60
135°	5,88	7,30	8,09	8,61	9,22	9,92	11,62
150°	4,95	6,19	7,29	8,04	8,42	8,85	10,14
Run VMG	4,29	5,36	6,31	6,97	7,32	7,80	8,78
Gybe Angles	142,9°	145,6°	149,0°	151,7°	151,9°	176,4°	143,3°

Class Division Length
CDL = **11,644**

Storm Sails Areas
Heavy Weather Jib **45,19**
Storm Jib (JL=11,90) **16,74**
Storm Trysail **17,22**

Owner
JULIO HIDALGO

I certify that I understand my responsibilities under ORC Rules and Regulations

Signature

BOAT		
Name TIBURON	Sail Nr ECU-4223	
File ECU4223 trial 1	Data in meters/kilograms	

INCLINING TEST AND FREEBOARDS		
Inclining Test Current Inclining		
Flotation date 28/09/2017	SG 1,0253	
FFM 1,442	FF 1,448	SFFP 0,474
FAM 1,110	FA 1,109	SAFP 12,543
W1 120,0	PD1 469,1	WD 11,420
W2 120,0	PD2 470,4	GSA 1,0
W3 120,0	PD3 470,8	RSA 1,0
W4 120,0	PD4 470,8	PLM 9000,0
LCF from stem on CL / on sheer		7,174 / 7,425
Maximum beam station from stem		8,347
RM Measured		229,5kg-m
RM Default		216,9kg-m
Limit of positive stability / Stab.Index		136,0° / 139,1
Freeboard at mast at 5,369		1,226



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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 17,200	E 5,720	MDT1 0,137	MW 0,248	
IG 18,022	J 5,014	MDL1 0,250	GO 0,323	
ISP 19,422	SFJ 0,355	MDT2 0,101	BD 0,206	
BAS 1,947	SPL 0,000	MDL2 0,177	MWT	
FSP 0,068	TPS 7,350	TL 1,005	MCG	

MIZZEN RIG AND SAILS	
N/A	

PROPELLER		
Installation Strut	PRD 0,438	
Type Folding 2 blades	PBW 0,110	
Twin Screw	PIPA 0,0040	
ST1 0,064	ST3 0,179	ST5 0,295
ST2 0,176	ST4 0,110	EDL 1,926

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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
	0,350	1,37	2,30	3,70	4,78	59,50 60,69 P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)
Symmetric Not Available						
Asymmetric on centerline	SLU	SLE	SL	SHW	SFL	Area Formula
	21,63	18,43	20,03	11,09	11,25	185,64 AS · (SFL + 4·SHW) / 6

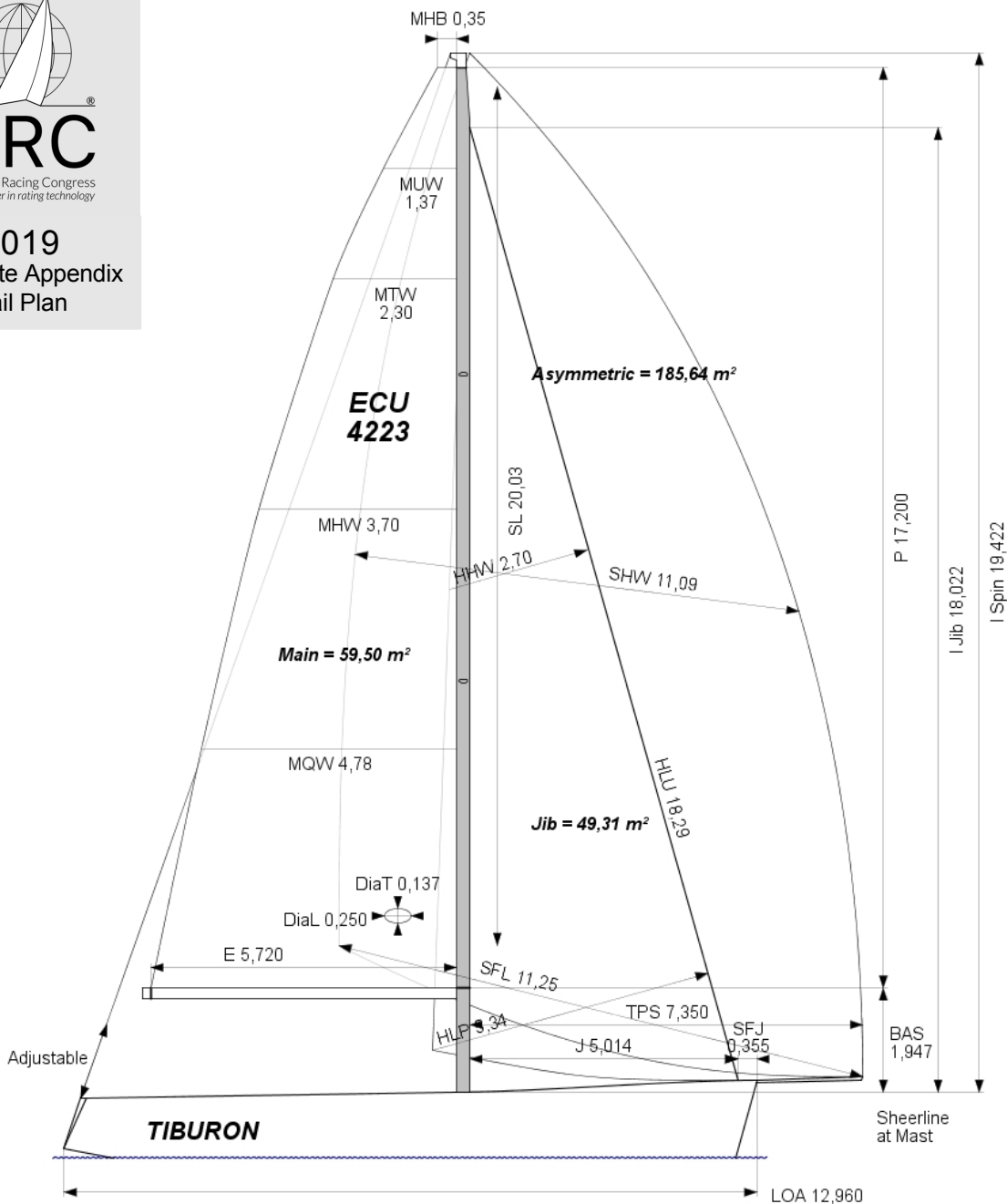
HEADSAILS												
Area = 0.1125·HLU · (1.445·HLP + 2·HQW + 2·HHW + 1.5·HTW + HUW + 0.5·HHB)												
HBB	HUW	HTW	HHW	HQW	HLP	HLU	Area	Btn	Fly	Meas.Date	Material	Comment
0,10	0,78	1,48	2,70	3,90	5,34	18,29	49,31	N		04/10/2019	Carbon	3DI-Nueva
0,10	0,75	1,44	2,67	3,89	5,31	18,05	48,23	Y		07/10/2018	Carbon	3DI-Usada
0,10	0,65	1,25	2,47	3,77	5,24	18,26	46,48	Y		26/09/2014	Carbon	
0,08	0,72	1,34	2,49	3,69	4,89	16,63	41,53	Y		04/10/2019	Carbon	Nueva
0,03		1,12	2,22	3,34	4,50	15,80	35,38			04/10/2017	Pentex	NUEVO

MEASUREMENT INVENTORY				
Measurer PATRICIO GUTIERREZ P G				
Date 28/09/2017				
Comment				
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
3A	Engine	VOLVO PENTA	40 HP	
Id	Item	Weight	Description	

MEASUREMENT INVENTORY									
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condtn	Description	
4D	Tank	PETROL	PLASTICO	60,0	5,43	0,18	30,0	POR EL LADO DE	
4C	Tank	PETROL	PLASTICO	60,0	5,43	0,18	30,0	POR EL LADO DE	
4B	Tank	AGUA	PLASTICO	160,0	6,66	0,18	0,0	02 TANQUES POR	
4A	Tank	AGUA	PLASTICO	160,0	6,66	0,18	0,0	02 TANQUES POR	
Id	Item	Weight	Distance	VCG	Description				
C6	Ballast	19,0	6,90	0,00	1 LINGOTE DE PLOMO				
E4	Battery	15,0	9,07	0,05	01 BATERIA A POPA A ESTRBOR				
C7	Battery	15,0	6,36	0,12	01 BATERIA EN CRUJIA				
C7	Battery	15,0	5,80	0,12	01 BATERIA EN CRUJIA				
C6	Misc	5,0	9,39	0,37	GATO HIDRAULICO				
B4	Misc	10,0	7,19	0,47	MOTOR CONGELADOR				
E4	Misc	3,0	7,15	0,39	CONVERTIDOR ELECTRICO				
C4	Misc	10,0	9,82	0,00	TERMO TANQUE AGUA				



2019
Certificate Appendix
Sail Plan



SAILS INVENTORY

MAINSAIL (1)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
M5	0,35	1,37	2,30	3,70	4,78	59,51	G Liza	04/10/2019	NORTH	Carbon	3DI-Nueva					
HEADSAILS (5)																
Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
G1 L-2	0,10	0,78	1,48	2,70	3,90	5,34	18,29	107%	49,31	N		G Liza	04/10/2019	NORTH	Carbon	3DI-Nueva
G1 M	0,10	0,75	1,44	2,67	3,89	5,31	18,05	106%	48,23	Y		G Liza	07/10/2018	NORTH	Carbon	3DI-Usada
J-H-1	0,10	0,65	1,25	2,47	3,77	5,24	18,26	105%	46,48	Y		G LIZA	26/09/2014	NORTH	Carbon	
G3.5	0,08	0,72	1,34	2,49	3,69	4,89	16,63	98%	41,53	Y		G Liza	04/10/2019	NORTH	Carbon	Nueva
ST.SAIL	0,03		1,12	2,22	3,34	4,50	15,80	90%	35,38			DECLAR	04/10/2017	NORTH	Pentex	NUEVO
SYMMETRIC SPINNAKERS (0)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
ASYMMETRIC SPINNAKERS (6)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
A1.5	21,63	18,43	20,03	11,09	11,25	185,65	asym	G Liza	07/10/2018	NORTH	Nylon	BL - Usado				
A2	22,12	17,84	19,98	10,75	11,23	180,59	asym	G LIZA	04/10/2019	NORTH	Nylon	BL - Usado				
A4	21,37	18,14	19,76	10,88	11,03	179,61	asym	P GUTIERREZ	03/10/2017	NORTH	Nylon	ROJO				
A3	20,88	18,37	19,63	9,72	10,94	162,96	asym	P GUTIERREZ	29/09/2017	NORTH	Nylon	BL - NUEVO				
A0	20,62	18,17	19,40	7,79	10,28	133,96	asym	P GUTIERREZ	01/10/2017	NORTH	Kevlar	GRIS				