

BOAT Name IMMAC FRAM Sail Nr GER 7444	GPH 623.8	HULL Length Overall 10.300m Maximum Beam 3.536m Displacement 4,510kg Draft 1.897m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.088% Fwd Accommodation Yes Hull Construction Cored Carbon Rudder No Crew Arm Extension
GENERAL Class ITALIA 9.98 Designer POLLI Builder ITALIA YACHTS Series 09/2014, CIN IT-ILY99803G516 Age 06/2015 Age Allowance 0.163% Offset File IY998mp.off - 04/11/2015 14:00:04 Measurement by - 18/04/2018		IMSL 9.380m VCGD 0.126m Sink 17.65kg/mm RL 8.300m VCGM 0.126m WS 23.39m² LSM0 9.094m Displacement/Length ratio 5.9967



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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	606.9			681.0		
Time on Time	0.9886			0.9912		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	714.5	552.4	493.1	925.5	682.4	597.8
Time on Time	0.9447	1.2220	1.3689	0.7293	0.9891	1.1291

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1062.4	877.7	775.7	732.9	718.8	714.9	707.6
52°	688.7	580.2	527.1	505.6	498.5	495.6	491.2
60°	647.3	552.5	511.2	492.0	483.2	479.2	475.5
75°	617.3	532.9	499.5	479.4	463.5	453.1	446.4
90°	624.7	530.8	491.0	469.4	457.0	438.9	416.0
110°	630.4	524.4	484.5	456.4	431.6	413.1	390.5
120°	648.3	534.0	489.3	460.1	432.4	408.1	368.4
135°	716.1	580.5	512.0	479.8	452.2	425.6	373.9
150°	851.2	674.8	569.6	510.5	480.7	455.2	406.9
Run VMG	982.8	779.2	657.2	580.1	527.2	492.3	443.1

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Number **166804**
ORC Ref **GER30010277**
Issued On **10/07/2019**
VPP Ver. **2019 1.01**
Valid until **01/01/2020**

Crew Weight

Default 601kg
Maximum **642kg**
Minimum* **482kg**
**when applied by the NoR and SI*
Non Manual Pwr **No**

Special Scoring

	ToD	ToT
Double H.GPH	634.9	0.9450
Double H.OSN	619.7	0.9682
Non Spin GPH	657.0	0.9132
Non Spin OSN	638.1	0.9403

Selected Courses							
Windward / Leeward	1022.6	828.5	716.5	656.5	623.0	603.6	575.4
Circular Random	858.5	693.3	605.1	554.3	523.1	502.5	474.9
Coastal / Long Distance	1018.6	777.4	646.1	573.2	535.1	503.8	449.9
Non Spinnaker	917.3	735.0	636.4	578.9	543.6	520.6	491.3

Sails Limitations

Headsails	Spinnakers
5	3

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	43.4°	42.2°	41.2°	40.1°	40.4°	40.6°	40.8°
Beat VMG	3.39	4.10	4.64	4.91	5.01	5.04	5.09
52°	5.23	6.21	6.83	7.12	7.22	7.26	7.33
60°	5.56	6.52	7.04	7.32	7.45	7.51	7.57
75°	5.83	6.76	7.21	7.51	7.77	7.94	8.06
90°	5.76	6.78	7.33	7.67	7.88	8.20	8.65
110°	5.71	6.86	7.43	7.89	8.34	8.71	9.22
120°	5.55	6.74	7.36	7.82	8.33	8.82	9.77
135°	5.03	6.20	7.03	7.50	7.96	8.46	9.63
150°	4.23	5.33	6.32	7.05	7.49	7.91	8.85
Run VMG	3.66	4.62	5.48	6.21	6.83	7.31	8.12
Gybe Angles	145.0°	149.0°	150.7°	157.4°	180.0°	180.0°	180.0°

Class Division Length

CDL = **8.841**

Storm Sails Areas

Heavy Weather Jib **25.53**
Storm Jib (JL=8.94) **9.46**
Storm Trysail **10.94**

Owner

BOAT	
Name IMMAC FRAM	Sail Nr GER 7444
File GER7444	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 13.020	E 4.800 MDT1 0.124 MW 0.185
IG 13.699	J 4.220 MDL1 0.185 GO 0.201
ISP 13.829	SFJ 0.105 MDT2 0.124 BD 0.220
BAS 1.499	SPL 4.340 MDL2 0.149 MWT 154.60
FSP 0.068	TPS 4.325 TL 0.950 MCG 4.980

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 18/04/2018		SG 1.0140	
FFM 1.262	FF 1.264	SFFP 0.000	
FAM 0.627	FA 0.631	SAFP 10.300	
W1 61.1	PD1 535.9	WD 11.410	
W2 61.1	PD2 536.4	GSA 1.0	
W3 61.1	PD3 536.7	RSA 1.0	
W4 61.1	PD4 537.7	PLM 9000.0	
LCF from stem on CL / on sheer		5.599 / 5.828	
Maximum beam station from stem		7.304	
RM Measured		102.3kg-m	
RM Default		113.1kg-m	
Limit of positive stability / Stab.Index		116.1° / 113.0	
Freeboard at mast at 4.325		1.225	



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MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.376		
Type Folding 2 blades	PBW 0.096		
Twin Screw No	PIPA 0.0038		
ST1 0.065	ST3 0.181	ST5 0.335	
ST2 0.177	ST4 0.113	EDL 1.245	

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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	
	0.350	1.08	1.76	2.95	3.92	36.51	37.22	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL				
	13.78	13.78	13.78	7.58	7.16	86.08		SL · (SFL + 4·SHW) / 6	
Asymmetric	SLU	SLE	SL	SHW	SFL				
	14.19	12.23	13.21	5.02	6.68	58.92	71.54	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
0.12	0.71	1.31	2.37	3.38	4.43	13.68	31.76	Y		06/06/2019	Carbon	J1-2 #124459
0.12	0.72	1.30	2.33	3.32	4.39	13.75	31.52			05/03/2019	Carbon	JIB2
0.13	0.71	1.30	2.34	3.35	4.40	13.61	31.33	Y		08/03/2018	Carbon	J1-1 #112584
0.13	0.71	1.30	2.33	3.31	4.33	13.58	30.96	Y		13/03/2018	Carbon	J2-1 #112585
0.08	0.58	1.09	2.11	3.17	4.26	13.14	28.04	Y		12/09/2017	Twaron	J3 #116895
0.10	0.59	1.06	1.97	2.84	3.60	10.76	20.64		Y	22/02/2017	Polyest	STAYSAIL

MEASUREMENT INVENTORY				
Measurer				
Date 18/04/2018				
Comment				
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
1	Engine	VOLVO	20HP	
Id	Item	Weight Description		

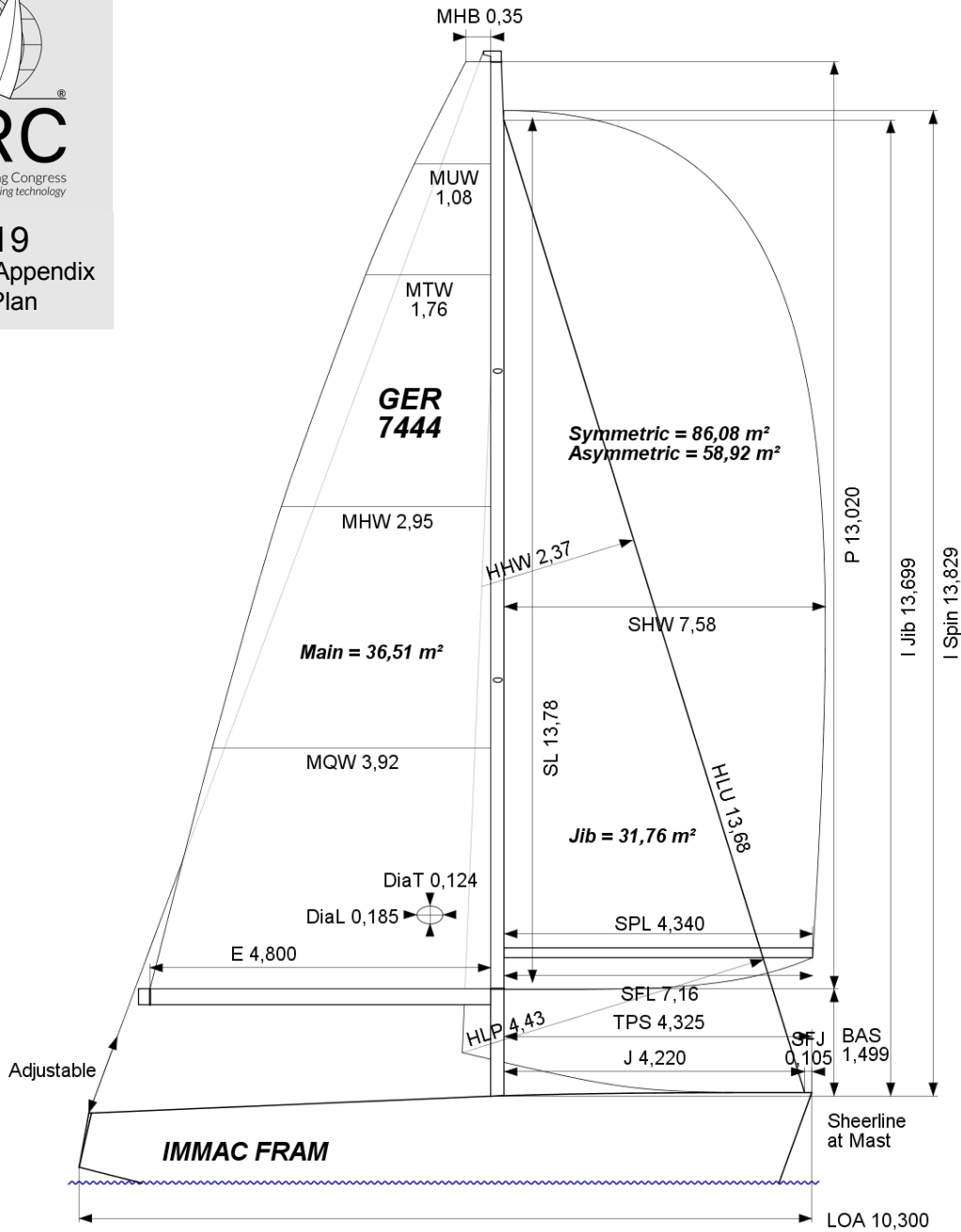
MEASUREMENT INVENTORY									
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condtn	Description	
1	Tank	WATER	PL	110.0	4.20			0-0 EMPTY	
2	Tank	FUEL	PL	61.0	7.56			10-0 10 L	
Id	Item	Weight	Distance	VCG Description					
1	Battery	42.0	4.66	2x 70AH Mastervolt					



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Sail Plan



SAILS INVENTORY

MAINSAIL (2)																
Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
166111	0.35	1.08	1.76	2.95	3.92	36.52		05/03/2019	QUANTUM	Carbon						
159626	0.35	1.06	1.76	2.95	3.93	36.52		14/03/2018	QUANTUM	Carbon	M1 #112522					
HEADSAILS (6)																
Id	HHB	HUW	HTW	HHW	HQU	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
166065	0.12	0.71	1.31	2.37	3.38	4.43	13.68	105%	31.76	Y			06/06/2019	QUANTUM	Carbon	J1-2 #124459
166112	0.12	0.72	1.30	2.33	3.32	4.39	13.75	104%	31.52				05/03/2019	QUANTUM	Carbon	JIB2
159630	0.13	0.71	1.30	2.34	3.35	4.40	13.61	104%	31.33	Y			08/03/2018	QUANTUM	Carbon	J1-1 #112584
159631	0.13	0.71	1.30	2.33	3.31	4.33	13.58	103%	30.96	Y			13/03/2018	QUANTUM	Carbon	J2-1 #112585
162110	0.08	0.58	1.09	2.11	3.17	4.26	13.14	101%	28.04	Y			12/09/2017	QUANTUM	Twaron	J3 #116895
162083	0.10	0.59	1.06	1.97	2.84	3.60	10.76	85%	20.64		Y		22/02/2017	QUANTUM	Polyest	STAYSAIL
SYMMETRIC SPINNAKERS (5)																
Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
166068	13.78	13.78	13.78	7.58	7.16	86.08		06/06/2018	QUANTUM	Nylon	S2-2 #124322					
166113	13.78	13.78	13.78	7.63	6.95	86.06		05/03/2019	QUANTUM	Nylon	S2					
159629	13.70	13.70	13.70	7.46	7.08	84.31		08/03/2018	QUANTUM	Nylon	S2-1 #112527					
159628	13.80	13.80	13.80	7.38	7.12	84.28		08/03/2018	QUANTUM	Nylon	S1-1 #112526					
159627	13.66	13.66	13.66	7.33	7.12	82.97		03/02/2017	QUANTUM	Nylon	S4-1 #112528					
ASYMMETRIC SPINNAKERS (1)																
Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment				
162105	14.19	12.23	13.21	5.02	6.68	58.92	asym		16/07/2017	QUANTUM	Nylon	A5				