

BOAT
Name TORMENTO
Sail Nr PER 40

GPH
614.7

HULL	Length Overall	12.360 m
	Maximum Beam	3.890 m
	Displacement	7,665 kg
	Draft	2.241 m
	IMS Reg. Division	Cruiser/Racer
	Dynamic Allowance	0.232%
	Fwd Accommodation	Yes
	Hull Construction	Solid
	Carbon Rudder	No
	Trim Tab	No
	IMS L	10.298
	VCGD	-0.012
	VCGM	-0.052
	Sink	21.28 kg/mm
	Wetted Area	30.38 m²



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2009
ORC International
Certificate

GENERAL
Class Frers 40
Designer Frers
Builder Cadarsø
Series 01-1990
Age 01-1990
Age Allowance 1.235%
Offset File tormento.off - 06-oct-92 22:00:52
Measurement by Chalco/Carrion - 30-09-1992

SCORING OPTIONS	OFFSHORE			INSHORE		
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time On Distance	614.7			684.6		
Time On Time	0.9761			0.9860		
Performance Line	PLT	PLD		PLT	PLD	
	0.869	111.4		1.039	307.4	
Triple Number	Low	Medium	High	Low	Medium	High
	0.9589	1.2384	1.3959	0.7297	0.9943	1.1619

Rating Office

Federacion Peruana Vela
Bolognesi 761, Callao 5
Peru
Aguiles Rubina, Rat. Off.
rubina@terra.com.pe



TIME ALLOWANCES	Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
	Beat VMG	1034.0	850.0	761.5	717.6	690.7	673.5	657.8
	52°	664.2	557.2	513.9	493.6	482.2	474.8	467.6
	60°	619.2	533.3	495.2	475.6	465.6	458.8	451.6
	75°	585.4	516.1	481.7	459.8	444.9	437.2	428.1
	90°	584.1	505.2	469.6	452.0	443.0	428.9	411.6
	110°	596.2	514.9	475.6	449.2	428.5	415.4	401.5
	120°	636.1	533.9	487.4	457.9	434.3	414.5	389.4
	135°	734.3	586.9	519.1	481.1	454.8	432.5	395.5
	150°	879.9	692.8	580.8	521.1	484.7	458.9	418.1
	Run VMG	1016.0	800.0	670.5	590.6	536.6	498.8	450.2

Certificate
Number PERI13
ORC Ref PER00000006
Issued On 30-sep-09
VPP Ver. 1.11
Valid until 30-mar-10

Crew Weight
Declared 750 kg
Default* 735 kg

Special Scoring	
ToD	ToT
Double Handed 617.8	0.9711
Non Spinnaker 656.6	0.9138

Selected Courses	Windward / Leeward	1044.4	838.5	727.2	662.4	620.9	592.7	559.5
	Circular Random	846.2	683.6	596.5	545.7	514.2	493.2	466.6
	Ocean for PCS	904.5	715.2	610.0	545.8	503.5	473.5	431.1
	Non Spinnaker	923.7	737.7	636.0	575.5	537.4	512.1	480.9

Sails Limitations		
Genoa	Jibs	Spinnakers
1	0	4
Spinnaker configuration Symmetric		

Storm Sails Areas	
Heavy Weather Jib	37.81
Storm Jib (JL=10.88)	14.01
Storm Trysail	11.49

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	44.8°	44.4°	41.4°	39.6°	38.6°	38.0°	37.3°
	Beat VMG	3.48	4.24	4.73	5.02	5.21	5.35	5.47
	52°	5.42	6.46	7.01	7.29	7.47	7.58	7.70
	60°	5.81	6.75	7.27	7.57	7.73	7.85	7.97
	75°	6.15	6.98	7.47	7.83	8.09	8.23	8.41
	90°	6.16	7.13	7.67	7.96	8.13	8.39	8.75
	110°	6.04	6.99	7.57	8.01	8.40	8.67	8.97
	120°	5.66	6.74	7.39	7.86	8.29	8.68	9.25
	135°	4.90	6.13	6.93	7.48	7.92	8.32	9.10
	150°	4.09	5.20	6.20	6.91	7.43	7.84	8.61
	Run VMG	3.54	4.50	5.37	6.10	6.71	7.22	8.00
	Gybe Angles	142.4°	146.0°	150.7°	161.4°	167.4°	172.0°	174.3°

Owner

Jacobo Said
Paz Soldán 170, ofi 204,
San Isidro
Lima, Peru
jacobosaid@hotmail.com

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

Signature

BOAT	
Name TORMENTO File TORMEN.dxt	Sail Nr PER 40 Data in meters/kilograms

INCLINING TEST AND FREEBOARDS		
Inclining Test Current Inclining		
Flotation date 22-09-2008		SG 1.0255
FFM 1.225	FF 1.225	SFFP 0.600
FAM 1.005	FA 1.005	SAFP 10.830
W1 23.250	PD1 62.5	WD 12.800
W2 46.500	PD2 125.0	GSA 38.0
W3 69.750	PD3 187.5	RSA 7800.0
W4 93.000	PD4 250.0	PLM 2130.0
Maximum beam station from stem		6.973
RM Measured / Default		176.6 / 167.0
Limit of positive stability		116.6°
Stability Index		119.0
Freeboard at mast at 4.977		1.067



2009
IMS Measurement
Certificate

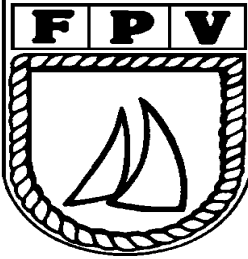
RIG			
Forestay Tension Aft	Spreaders 3		
Inner Forestay Adjustable	Runners 2		
Carbon Mast No	Jumpers None		
Taper Hollows No	w/o Backstay No		
P 14.500	E 4.530	MDT1 0.121	TL 2.670
IG 16.607	J 4.920	MDL1 0.223	MWT 238.00
ISP 16.577	SFJ 0.057	MDT2 0.121	MCG 5.425
SPS 4.823	SPL 4.842	MDL2 0.174	CPW 2.315
BAS 1.727	TPS	MW 0.174	BD 0.168
BAL 0.360	FSP 0.070	GO 0.212	BWT 20.00

HEAVY ITEMS			
Bow Thruster No	Generator No	Air Condition No	
Windlass No	Jib Furler Yes	Desalinator No	
Heavy Deck No	Main Furler No		
Headliners Yes	Water Heater Yes		
Anchor Weight 35.0	Heavy Items Adjustment 0.0040		
Anchor LCG 1.20	Total Gyradius Adjustment 0.0477		

PROPELLER			
Installation Out of Aperture	PRD 0.480		
Type Feathering 2 blades	PBW 0.150		
Twin Screw No	PIPA 0.0061		
PSA 19.000	PHL 0.145	ST3 0.135	ESL 1.070
PSD 0.031	ST1 0.012	ST4 0.057	
PHD 0.075	ST2 0.135	ST5 0.265	

Certificate

Number **PER113**
 ORC Ref **PER00000006**
 Issued On **30-sep-09**
 VPP Ver. **1.11**
 Valid until **30-mar-10**



MIZZEN RIG AND SAILS	
N/A	

WATER BALLAST	
N/A	

COMMENTS	
N/A	

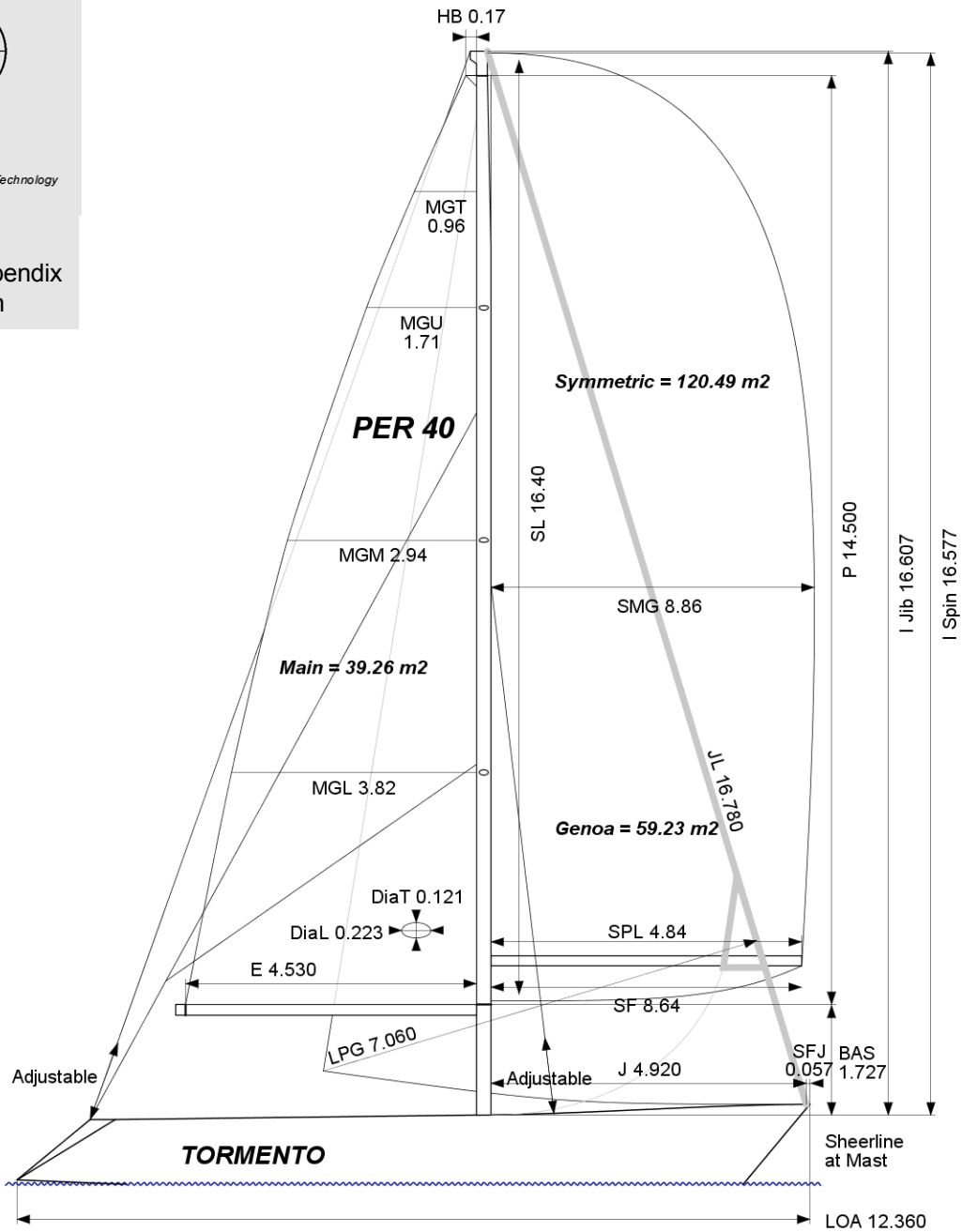
CENTERBOARD	
N/A	

SAILS (Maximum Areas)									
Mainsail	HB	MGT	MGU	MGM	MGL	MSW	Area	Formula	
	0.170	0.96	1.71	2.94	3.82	22.50	39.26	P/8 · (E + 2·MGL + 2·MGM + 1.5·MGU + MGT + 0.5·HB)	
Jib/Genoa	JH	JGT	JGU	JGM	JGL	JL	LPG	Formula	
	0.00	0.88	1.77	3.53	5.30	16.78	7.06	0.1125·JL·(1.445·LPG+2·JGL+2·JGM+1.5·JGU+JGT+0.5·JH)	
Symmetric	SL	SMG	SF				Area	Formula	
	16.40	8.86	8.64				120.49	SL · (SF + 4·SMG) / 6	



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Certificate Appendix
Sail Plan



SAILS INVENTORY

MANSAIL

Id	HB	MGT	MGU	MGM	MGL	MSW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
ORC	0.170	0.96	1.71	2.94	3.82	22.50	39.26					* Copied from legacy

JIBS / GENOAS

Id	JH	JGT	JGU	JGM	JGL	LPG	JL	Overlap	Area	Measurer	Meas.Date	Manufacture	Material	Comment
ORC						7.06	16.78	143%	59.24					* Copied from

SYMMETRIC SPINNAKERS

Id	SL	SMG	SF	Area	Measurer	Meas.Date	Manufacture	Material	Comment
ORC	16.40	8.86	8.64	120.49					* Copied from legacy *

ASYMMETRIC SPINNAKERS

Id	SLU	SLE	ASL	AMG	ASF	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
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