

BOAT
Name LUDUAN RELOADED Sail Nr ITA-18170

GPH
552.4

HULL			
Length Overall	14.100m	Maximum Beam	4.252m
Displacement	11,809kg	Draft	2.603m
IMS Reg. Division	Cruiser/Racer	Dynamic Allowance	0.094%
Fwd Accommodation	Yes	Hull Construction	Cored
		Carbon Rudder	Yes
Crew Arm Extension			
IMSL	12.794m	VCGD	0.032m
		Sink	31.49kg/mm
RL	10.820m	VCGM	0.087m
		WS	41.04m ²
LSM0	12.678m	Displacement/Length ratio	5.7951



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GENERAL	
Class	GRAND SOLEIL 46 BC
Designer	BOTIN/CARKEEK
Builder	CANTIERE DEL PARDO
Series	11/2008
Age	11/2008
Age Allowance	0.357%
Offset File	GS46BC08.OFF - 17/11/2008 12:23:38
Measurement by	- 19/05/2019

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SCORING OPTIONS						
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time on Distance	537.2			600.8		
Time on Time	1.1170			1.1235		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	633.9	488.8	436.6	821.0	604.0	522.6
Time on Time	1.0649	1.3810	1.5459	0.8222	1.1176	1.2916

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TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	944.6	775.8	683.5	642.0	623.9	615.6	598.8
52°	615.2	515.6	464.5	444.8	437.6	434.0	428.1
60°	579.5	491.0	449.7	433.0	425.8	422.1	417.9
75°	551.9	473.3	439.6	423.0	412.2	405.3	399.1
90°	556.4	470.4	435.9	420.9	407.2	395.3	377.5
110°	556.6	462.3	425.7	406.6	393.7	383.6	366.8
120°	570.7	470.7	429.7	407.8	388.1	370.5	350.3
135°	634.1	514.3	450.3	421.7	400.9	379.9	339.7
150°	752.2	601.8	508.9	452.9	424.3	404.7	365.6
Run VMG	868.6	694.8	587.6	518.6	475.3	440.6	399.5

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Number 181701 ORC Ref ITA00052559 Issued On 20/05/2019 VPP Ver. 2019 1.01 Valid until 31/12/2019

Selected Courses							
Windward / Leeward	906.6	735.3	635.6	580.3	549.6	528.1	499.2
Circular Random	761.0	614.1	535.7	490.6	463.0	444.8	420.6
Coastal / Long Distance	902.8	690.0	572.4	506.5	472.4	445.7	403.9
Non Spinnaker	825.8	660.1	569.7	516.4	483.3	461.5	433.8

Crew Weight
Default 966kg Maximum 1,035kg Minimum* 776kg <i>*when applied by the NoR and SI</i> Non Manual Pwr No

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	43.3°	41.6°	40.7°	39.8°	38.9°	38.6°	38.5°
Beat VMG	3.81	4.64	5.27	5.61	5.77	5.85	6.01
52°	5.85	6.98	7.75	8.09	8.23	8.29	8.41
60°	6.21	7.33	8.00	8.31	8.45	8.53	8.62
75°	6.52	7.61	8.19	8.51	8.73	8.88	9.02
90°	6.47	7.65	8.26	8.55	8.84	9.11	9.54
110°	6.47	7.79	8.46	8.85	9.14	9.38	9.82
120°	6.31	7.65	8.38	8.83	9.28	9.72	10.28
135°	5.68	7.00	8.00	8.54	8.98	9.48	10.60
150°	4.79	5.98	7.07	7.95	8.48	8.90	9.85
Run VMG	4.14	5.18	6.13	6.94	7.57	8.17	9.01
Gybe Angles	143.8°	147.0°	149.1°	154.2°	161.8°	180.0°	180.0°

Special Scoring	
ToD	ToT
Double H.GPH 560.2	1.0711
Double H.OSN 546.0	1.0989
Non Spin GPH 588.2	1.0201
Non Spin OSN 572.1	1.0487

Sails Limitations	
Headsails 7	Spinnakers 5

Class Division Length
CDL = 11.808

Storm Sails Areas	
Heavy Weather Jib 45.69	Storm Jib (JL=11.96) 16.92
	Storm Trysail 19.28

Owner

BOAT		
Name	LUDUAN RELOADED	Sail Nr
File	I18170	Data in
		ITR-18170
		meters/kilograms

RIG		
Forestay Tension	Aft	Spreaders
Inner Stay	None Fitted	Runners
Carbon Mast	Yes	Jumper Struts
Taper Hollows	No	Jib Furler
Fiber Rigging	Yes	Main Furler
Lenticular Rigging	No	Without Backstay
Articulated Bowsprit	No	
P	17.970	E
IG	18.354	J
ISP	20.178	SFJ
BAS	1.797	SPL
FSP	0.086	TPS
MDT1	0.143	MW
MDL1	0.282	GO
MDT2	0.112	BD
MDL2	0.206	MWT
TL	1.425	MCG
		0.270
		0.283
		0.270
		199.20
		5.830

INCLINING TEST AND FREEBOARDS		
Inclining Test	Boom Inclining	LCFD
Flotation date	07/04/2019	SG
		1.0270
FFM	1.645	FF
FAM	1.310	FA
W1	210.1	PD1
W2	210.1	PD2
W3	210.1	PD3
W4	210.1	PD4
SFFP	0.500	
SAFP	13.412	
WD	5.585	
GSA	1.0	
RSA	1.0	
PLM	9000.0	
LCF from stem on CL / on sheer		7.700 / 7.981
Maximum beam station from stem		8.863
RM Measured		305.2kg-m
RM Default		330.2kg-m
Limit of positive stability / Stab.Index		117.0° / 123.7
Freeboard at mast at 5.740		1.402



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MIZZEN RIG AND SAILS		
N/A		

PROPELLER		
Installation	Strut	PRD
Type	Feathering 3 blades	PBW
Twin Screw	No	PIPA
ST1	0.065	ST3
ST2	0.180	ST4
		ST5
		EDL
		0.500
		0.135
		0.0042
		0.303
		3.428

Certificate	
Number	181701
ORC Ref	ITA00052559
Issued On	20/05/2019
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	
	0.550	1.50	2.37	3.90	5.10	66.17	67.46	P/8 · (E + 2·MQW + 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL				
	19.93	19.93	19.93	11.07	10.57	182.19		SL · (SFL + 4·SHW) / 6	
Asymmetric	SLU	SLE	SL	SHW	SFL				
	20.47	19.26	19.86	11.10	10.40	181.43		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
0.12	1.03	1.90	3.37	4.66	5.90	18.15	58.24	Y		19/05/2019	Carbon	JL
0.12	0.99	1.86	3.35	4.64	5.89	18.13	57.78	Y		19/05/2019	Carbon	JM

MEASUREMENT INVENTORY				
Measurer	162			
Date	07/04/2019			
Comment	Condizioni ottime			
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
A	Engine	VOLVO PENTA	55 HP	
Id	Item	Weight	Distance	VCG Description

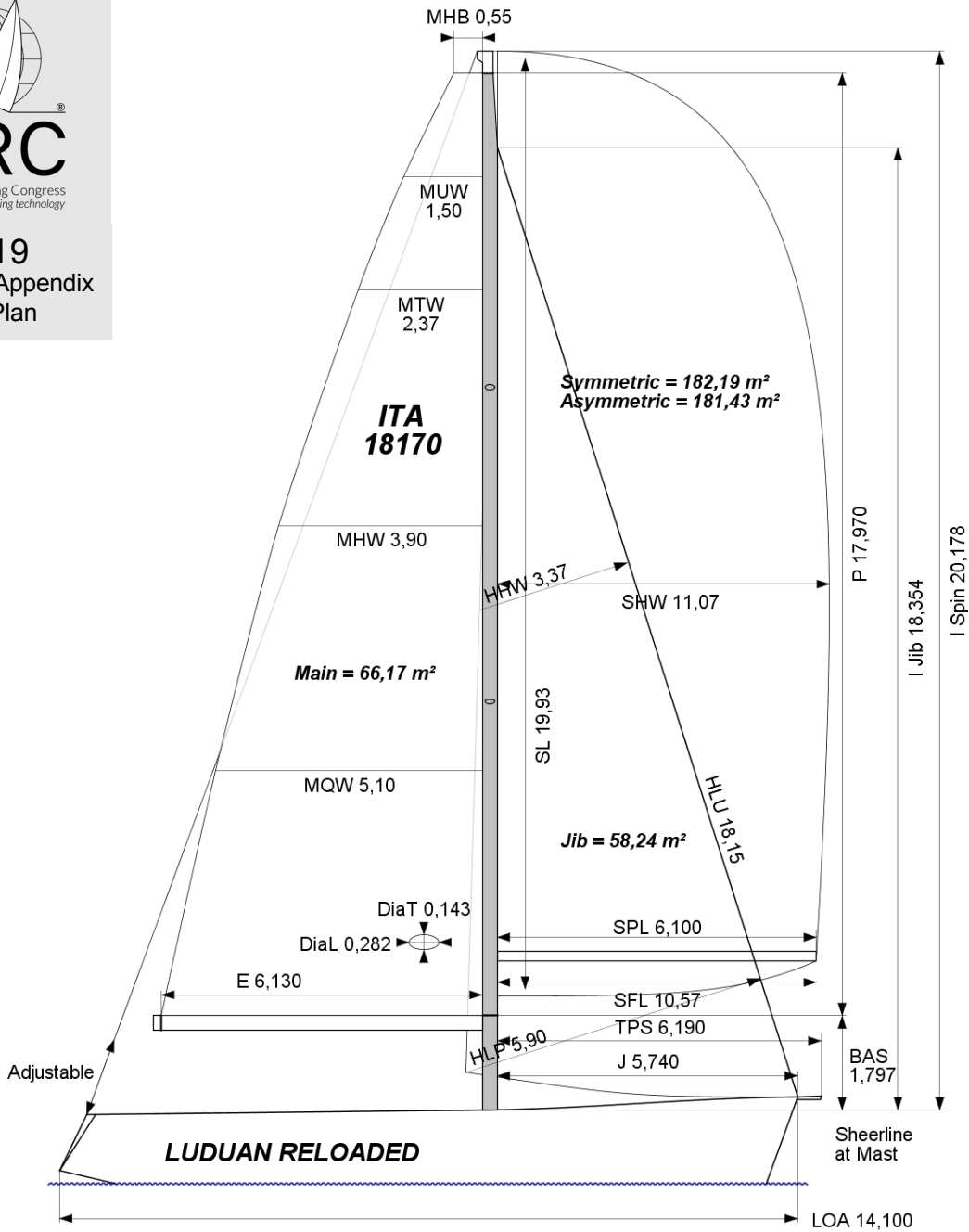
MEASUREMENT INVENTORY							
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condtn Description
A	Tank	ACQUA	PVC	200.0	12.30	0.00	0-0 DX
B	Tank	ACQUA	PVC	200.0	12.30	0.00	0-0 SX
C	Tank	GASOLIO	INOX	200.0	11.50	0.00	40-0 L
D	Tank	NERE	PVC	55.0	11.20	0.00	0-0 DX
E	Tank	NERE	PVC	55.0	2.65	0.00	0-0 SX
Id	Item	Weight	Distance	VCG	Description		
A	Battery	62.4	6.95	0.00	2 X 92 Ah DX		
B	Battery	62.4	6.95	0.00	2 x 92 Ah SX		
C	Battery	27.2	10.70	0.00	70 Ah DX		
A	Misc	40.0	11.00	0.00	BOILER 60 LT		



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Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
B	0,55	1,50	2,37	3,90	5,10	66,18		28/01/2014	NORTH	Carbon	

HEADSAILS (2)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
E	0,12	1,03	1,90	3,37	4,66	5,90	18,15	103%	58,24	Y			19/05/2019	QUANTUM	Carbon	JL
D	0,12	0,99	1,86	3,35	4,64	5,89	18,13	103%	57,78	Y			19/05/2019	QUANTUM	Carbon	JM

SYMMETRIC SPINNAKERS (2)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
C	19,93	19,93	19,93	11,07	10,57	182,20		22/04/2016	QUANTUM	Nylon	NUOVA MAX SPY
B	20,18	20,18	20,18	10,72	11,11	181,59		05/05/2015		Unknown	S1,5

ASYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
B	20,47	19,26	19,87	11,10	10,40	181,44	asym		17/08/2012	NORTH	Nylon	