

BOAT
Name BERING
Sail Nr EST 463

GPH
568,8

HULL
Length Overall 12,350 m
Maximum Beam 3,637 m
Displacement 7 219 kg
Draft 2,513 m
IMS Reg. Division Cruiser/Racer
Dynamic Allowance 0,232%
Fwd Accommodation Yes
Hull Construction Cored
Carbon Rudder No
Trim Tab No
IMS L 11,437 VCGD -0,017 VCGM -0,052
Sink 23,36 kg/mm Wetted Area 31,34 m²



2009
ORC International
Certificate

GENERAL
Class X-41
Designer JEPPESEN
Builder X YACHTS
Series 01.2006
Age 06.2007
Age Allowance 0,195%
Offset File X41.OFF - 15.03.2007 2:30:02
Measurement by Tetsmann - 10.07.2009

SCORING OPTIONS		
	OFFSHORE	INSHORE
	COASTAL / LONG DISTANCE	WINDWARD / LEEWARD
Time On Distance	568,8	633,6
Time On Time	1,0548	1,0654
Performance Line	PLT 0,934 PLD 108,5	PLT 1,133 PLD 313,4
Triple Number	Low 1,0342 Medium 1,3397 High 1,5082	Low 0,7856 Medium 1,0758 High 1,2496

Rating Office
Estonian Yachting Union
Veiko Rosme
Regati 1, 11911, Tallinn
Estonia

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	967,1	785,1	695,7	657,7	635,4	622,1	612,1
52°	627,2	519,4	475,4	457,8	448,1	442,4	438,0
60°	584,7	498,8	458,4	441,4	433,4	428,2	423,7
75°	549,7	484,1	446,7	426,2	413,2	406,7	399,4
90°	535,6	463,6	430,8	419,6	410,9	394,3	378,3
110°	542,2	474,2	438,4	412,4	390,7	380,7	363,0
120°	578,5	492,0	450,9	424,8	399,5	374,5	346,6
135°	676,7	540,6	482,1	447,2	424,3	402,5	354,5
150°	814,0	644,9	540,0	486,1	451,8	428,9	388,7
Run VMG	939,9	744,7	623,5	552,1	502,4	466,5	421,7

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Crew Weight
Declared 850 kg
Default* 823 kg

Special Scoring
ToD ToT
Double 571,8 1,0493
Non Spinnaker 612,5 0,9796

Selected Courses							
Windward / Leeward	971,0	776,7	671,1	612,4	575,5	550,4	522,2
Circular Random	784,0	632,8	551,9	504,9	475,8	456,4	431,3
Ocean for PCS	838,3	662,2	564,4	504,9	465,6	437,3	396,3
Non Spinnaker	865,3	689,2	592,9	535,8	500,1	476,7	448,2

Sails Limitations
Genoa 0 Jibs 5 Spinnakers 4
Spinnaker configuration Symmetric

Storm Sails Areas
Heavy Weather Jib 39,52
Storm Jib (JL=11,12) 14,64
Storm Trysail 15,58

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	43,5°	43,9°	40,0°	38,1°	37,1°	36,6°	36,3°
Beat VMG	3,72	4,59	5,17	5,47	5,67	5,79	5,88
52°	5,74	6,93	7,57	7,86	8,03	8,14	8,22
60°	6,16	7,22	7,85	8,16	8,31	8,41	8,50
75°	6,55	7,44	8,06	8,45	8,71	8,85	9,01
90°	6,72	7,77	8,36	8,58	8,76	9,13	9,52
110°	6,64	7,59	8,21	8,73	9,21	9,46	9,92
120°	6,22	7,32	7,98	8,47	9,01	9,61	10,39
135°	5,32	6,66	7,47	8,05	8,48	8,94	10,15
150°	4,42	5,58	6,67	7,41	7,97	8,39	9,26
Run VMG	3,83	4,83	5,77	6,52	7,17	7,72	8,54
Gybe Angles	141,4°	143,9°	150,2°	160,8°	167,1°	171,3°	174,2°

Owner
AS SAMPO PANK
Narva mnt. 11
Tallinn, Estonia
ESS Kalev JK
I certify that I understand my responsibilities under ORC Rules and Regulations
Signature

BOAT	
Name BERING	Sail Nr EST 463
File Est0463.dxt	Data in meters/kilograms

RIG			
Forestay Tension Aft	Spreaders 2		
Inner Forestay None Fitted	Runners 0		
Carbon Mast Yes	Jumpers None		
Taper Hollows No	w/o Backstay No		
P 16,250	E 5,480	MDT1 0,132	TL 0,950
IG 17,030	J 4,910	MDL1 0,250	MWT 205,00
ISP 17,080	SFJ 0,280	MDT2 0,123	MCG 5,730
SPS 3,740	SPL 4,920	MDL2 0,192	CPW 3,050
BAS 1,885	TPS	MW 0,250	BD 0,270
BAL 0,152	FSP 0,076	GO 0,273	BWT 33,00

HEAVY ITEMS			
Bow Thruster No	Generator No	Air Condition No	
Windlass No	Jib Furler No	Desalinator No	
Heavy Deck No	Main Furler No		
Headliners No	Water Heater No		
Anchor Weight	Heavy Items Adjustment	0,0000	
Anchor LCG	Total Gyradius Adjustment	0,0246	

MIZZEN RIG AND SAILS	
N/A	

COMMENTS

INCLINING TEST AND FREEBOARDS		
Inclining Test Current Inclining		
Flotation date 01.07.2007	SG 1,0020	
FFM 1,420	FF 1,429	SFFP 0,200
FAM 1,075	FA 1,081	SAFP 11,995
W1 88,000	PD1 203,0	WD 12,800
W2 88,000	PD2 204,0	GSA 12,6
W3 88,000	PD3 203,0	RSA 4298,7
W4 88,000	PD4 204,0	PLM 2005,
Maximum beam station from stem	8,278	
RM Measured / Default	193,6 / 203,7	
Limit of positive stability	122,0°	
Stability Index	126,3	
Freeboard at mast at 5,190	1,195	

PROPELLER		
Installation Strut Drive	PRD 0,430	
Type Folding	PBW 0,125	
Twin Screw No	PIPA 0,0032	
ST1 0,060	ST3	ST5 0,325
ST2	ST4 0,092	EDL 1,540

WATER BALLAST	
N/A	

CENTERBOARD
N/A



2009
IMS Measurement
Certificate

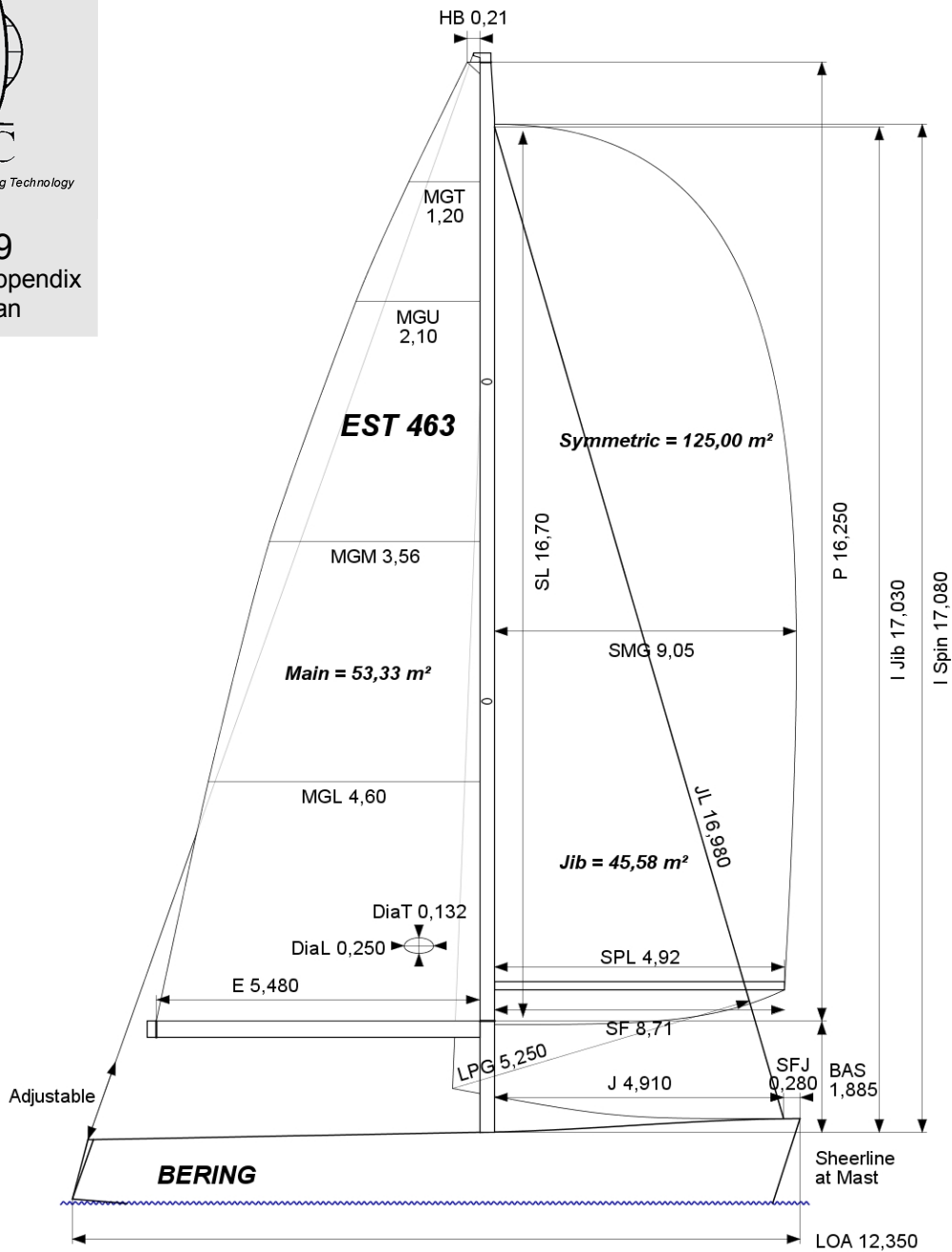
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SAILS (Maximum Areas)									
Mainsail	HB	MGT	MGU	MGM	MGL	MSW	Area	Formula	
	0,210	1,20	2,10	3,56	4,60	23,00	53,33	P/8 · (E + 2·MGL+ 2·MGM + 1.5·MGU + MGT + 0.5·HB)	
Jib/Genoa	JH	JGT	JGU	JGM	JGL	JL	LPG	Formula	
	0,09	0,72	1,41	2,72	3,98	16,98	5,25	0.1125·JL·(1.445·LPG+2·JGL+2·JGM+1.5·JGU+JGT+0.5·JH)	
Symmetric	SL	SMG	SF				Area	Formula	
	16,70	9,05	8,71				125,00	SL · (SF + 4·SMG) / 6	



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2009
Certificate Appendix
Sail Plan



SAILS INVENTORY														
MAINSAIL														
Id	HB	MGT	MGU	MGM	MGL	MSW	Area	Measur	Meas.Dat	Manufacturer	Material	Comment		
2	0,210	1,20	2,10	3,56	4,60	23,00	53,33	US 902	18.01.2008		Kevlar			
JIBS / GENOAS														
Id	JH	JGT	JGU	JGM	JGL	LPG	JL	Ovrlp	Area	Measur	Meas.Dat	Manufacturer	Material	Comment
1	0,10	0,74	1,42	2,74	3,97	5,20	16,92	106%	45,41				Unknown	
2	0,10	0,67	1,30	2,55	3,84	5,13	16,75	104%	43,08				Unknown	
3	0,09	0,77	1,47	2,71	3,86	5,21	16,92	106%	45,09				Unknown	
4	0,10	0,57	1,11	2,22	3,41	4,69	16,26	96%	37,17				Unknown	
5	0,09	0,72	1,41	2,72	3,98	5,25	16,98	107%	45,59				Unknown	
6	0,10	0,73	1,43	2,68	3,88	5,25	16,96	107%	45,08				Unknown	
SYMMETRIC SPINNAKERS														
Id	SL	SMG	SF	Area	Measur	Meas.Dat	Manufacturer	Material	Comment					
1	16,80	8,98	8,70	124,94		19.04.2007		Unknown						
2	16,70	9,05	8,71	125,00				Unknown						
3	16,90	8,85	8,85	124,64				Unknown						
ASYMMETRIC SPINNAKERS														
Id	SLU	SLE	ASL	AMG	ASF	Area	Kind	Measur	Meas.Dat	Manufacturer	Material	Comment		