

BOAT Name KALEVALA II Sail Nr USA-52439	GPH 616.1	HULL Length Overall 11.310m Maximum Beam 3.672m Displacement 7,383kg Draft 2.335m IMS Reg. Division Cruiser/Racer Dynamic Allowance 0.218% Fwd Accommodation Yes Hull Construction Solid Carbon Rudder Yes Crew Arm Extension 0.00
GENERAL Class GRAND SOLEIL 37 BC Designer BOTIN/CARKEEK Builder DEL PARDO Series 05/2005 Age 07/2005 Age Allowance 0.390% Offset File GS37BC.OFF - 17/05/2005 13:06:46 Measurement by DAVIS - 04/04/2017		IMSL 10.420m VCGD 0.214m Sink 22.52kg/mm RL 8.891m VCGM 0.118m WS 28.93m² LSMO 10.237m Displacement/Length ratio 6.8820



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SCORING OPTIONS	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
	Time On Distance	597.9			665.8	
Time On Time	1.0035			1.0138		
Triple Number	Low	Medium	High	Low	Medium	High
Time on Distance	710.4	545.0	482.5	919.2	672.2	573.8
Time on Time	0.9502	1.2386	1.3991	0.7343	1.0041	1.1764

TIME ALLOWANCES							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	1054.9	877.6	774.7	708.2	681.7	669.1	655.9
52°	689.9	581.8	520.2	493.4	482.9	478.1	474.2
60°	650.1	550.4	502.4	481.1	470.1	464.9	460.5
75°	617.7	526.9	490.0	470.8	456.4	445.4	435.7
90°	618.9	520.8	479.6	460.9	453.2	438.3	413.8
110°	625.4	518.4	477.3	454.2	434.9	417.3	399.2
120°	644.8	532.2	483.8	459.7	437.6	415.8	382.9
135°	713.5	582.3	508.2	475.7	454.3	433.1	391.3
150°	841.0	669.9	569.1	506.7	476.5	456.2	416.4
Run VMG	971.1	773.5	656.4	577.9	523.1	486.4	445.5

Certificate

Number **US6129**
ORC Ref **USA00000991**
Issued On **31/05/2017**
VPP Ver. **2017 1.00**
Valid until **28/02/2018**

Crew Weight

Declared **712kg**
Default* **712kg**
Non Manual Pwr **No**

Special Scoring

ToD ToT
Non Spin GPH **648.5 0.9252**
Non Spin OSN **628.3 0.9550**

Selected Courses							
Windward / Leeward	1013.0	825.6	715.5	643.0	602.4	577.7	550.7
Circular Random	851.5	686.6	597.6	545.6	513.3	492.1	465.6
Ocean for PCS	1042.4	805.0	670.5	588.0	534.5	497.3	445.9
Non Spinnaker	909.9	727.9	628.3	569.1	532.1	507.9	477.8

Sails Limitations	
Headsails	Spinnakers
6	4

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	42.9°	41.3°	41.4°	40.0°	38.6°	37.9°	37.7°
Beat VMG	3.41	4.10	4.65	5.08	5.28	5.38	5.49
52°	5.22	6.19	6.92	7.30	7.45	7.53	7.59
60°	5.54	6.54	7.17	7.48	7.66	7.74	7.82
75°	5.83	6.83	7.35	7.65	7.89	8.08	8.26
90°	5.82	6.91	7.51	7.81	7.94	8.21	8.70
110°	5.76	6.94	7.54	7.93	8.28	8.63	9.02
120°	5.58	6.76	7.44	7.83	8.23	8.66	9.40
135°	5.05	6.18	7.08	7.57	7.92	8.31	9.20
150°	4.28	5.37	6.33	7.10	7.56	7.89	8.65
Run VMG	3.71	4.65	5.48	6.23	6.88	7.40	8.08
Gybe Angles	144.8°	149.7°	151.7°	156.6°	174.4°	180.0°	180.0°

Class Division Length

CDL = **9.656**

Storm Sails Areas

Heavy Weather Jib **31.61**
Storm Jib (JL=9.95) **11.71**
Storm Trysail **13.57**

Owner

BOAT	
Name KALEVALA II	Sail Nr USA52439
File US6129	Data in meters/kilograms

INCLINING TEST AND FREEBOARDS			
Inclining Test Current Inclining			
Flotation date 10/05/2017		SG 1.0030	
FFM 1.397	FF 1.402	SFFP 0.254	
FAM 1.031	FA 1.044	SAFP 10.708	
W1 98.0	PD1 550.0	WD 11.895	
W2 98.0	PD2 550.0	GSA 1.0	
W3 98.0	PD3 550.0	RSA 1.0	
W4 98.0	PD4 550.0	PLM 9000.0	
LCF from stem on CL / on sheer		6.374 / 6.622	
Maximum beam station from stem		7.326	
RM Measured		166.9kg·m	
RM Default		180.2kg·m	
Limit of positive stability / Stab.Index		111.2° / 115.2	
Freeboard at mast at 4.347		1.185	

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 15.194	E 5.105	MDT1 0.113	MW 0.201
IG 15.209	J 4.102	MDL1 0.201	GO 0.226
ISP 16.584	SFJ 0.245	MDT2 0.108	BD 0.167
BAS 1.615	SPL 4.117	MDL2 0.164	MWT 184.00
FSP 0.068	TPS 4.920	TL 0.750	MCG 5.600



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IMS Measurement Certificate

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MIZZEN RIG AND SAILS	
N/A	

PROPELLER			
Installation Strut	PRD 0.435		
Type Folding 2 blades	PBW 0.110		
Twin Screw No	PIPA 0.0038		
ST1 0.065	ST3 0.175	ST5 0.295	
ST2 0.180	ST4 0.105	EDL 2.465	

COMMENTS	
15L H2O, 145L FUEL DATA FROM ORR41529 UPDATED FULL MSMT 2017	

MOVEABLE BALLAST	
N/A	

CENTERBOARD	
N/A	



Invalid for Racing

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SAILS (Maximum Areas)									
Mainsail	MHB	MUW	MTW	MHW	MQW	Area	Area (r)	Formula	
	0.175	1.11	1.95	3.31	4.31	46.47	47.37	P/8 · (E + 2·MQW+ 2·MHW + 1.5·MTW + MUW + 0.5·MHB)	
Symmetric	SLU	SLE	SL	SHW	SFL				
	16.51	16.51	16.51	7.65	7.38	104.51		SL · (SFL + 4·SHW) / 6	
Asymmetric	SLU	SLE	SL	SHW	SFL	Area (r)			
	16.13	16.13	16.13	5.45	7.25	78.10	85.17	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
0.61	1.18	2.31	3.41	4.45	14.91	34.04						* Copied from legacy *

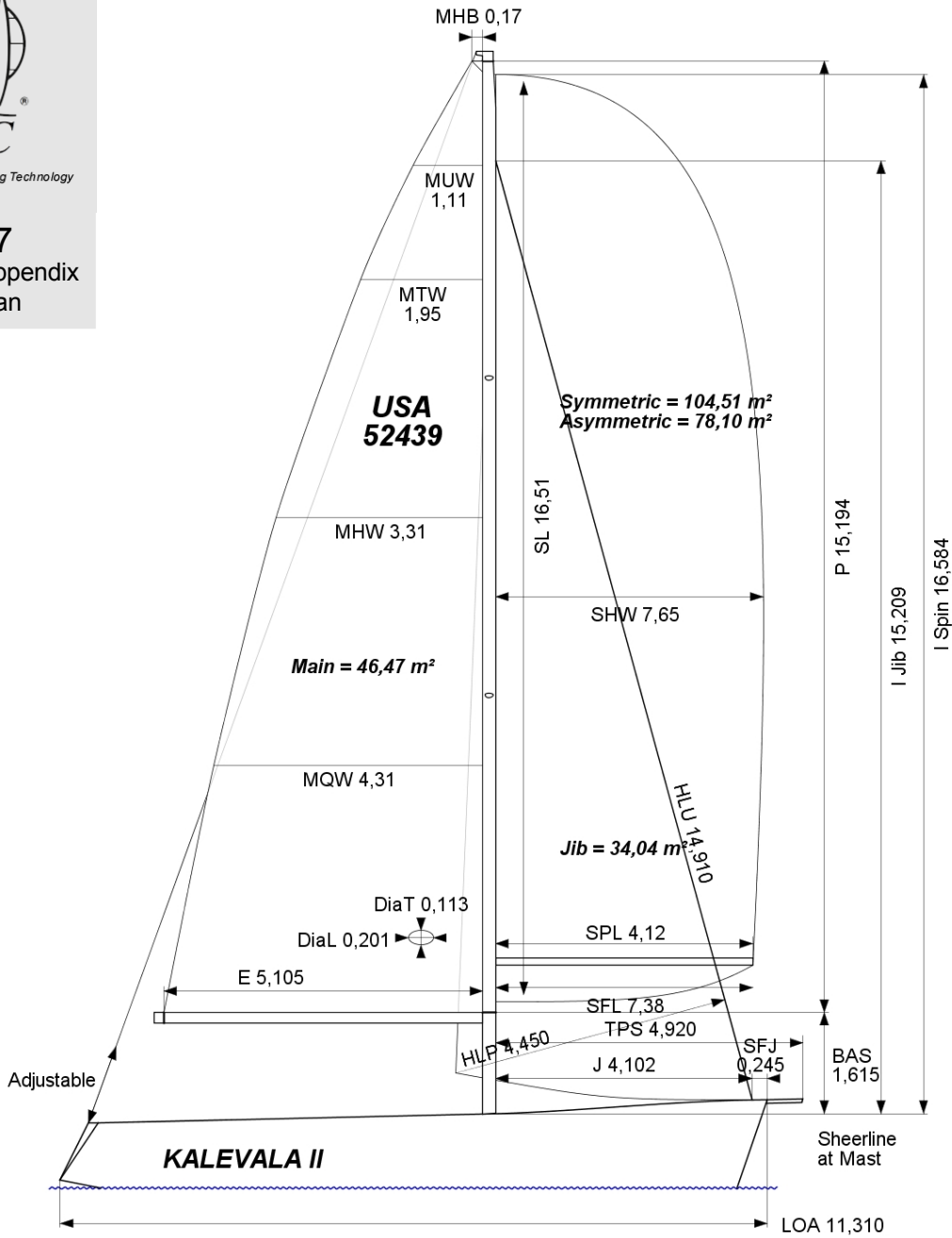
MEASUREMENT INVENTORY				
Measurer DAVIS				
Date 10/05/2017				
Comment				
Id	Item	Weight	Distance	VCG Description
Id	Item	Maker	Model	
1	Engine	VOLVO	MD 2040-D	
Id	Item	Weight Description		

MEASUREMENT INVENTORY								
Id	Item	Tank Use	Tank Type	Capcty	Dist.	VCG	Condtn	Description
3	Tank	WATER	PVC	70.0	9.10	0.00	0-0	
1	Tank	WASTE	PVC	38.0	8.10	0.20	0-0	
2	Tank	WATER	PVS	70.0	8.20	0.00	0-0	
4	Tank	FUEL	STAINLESS	120.0	8.70	0.00	00-0	
Id	Item	Weight	Distance	VCG Description				



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Sail Plan



SAILS INVENTORY

MAINSAIL (1)

Id	MHB	MUW	MTW	MHW	MQW	Area	Measurer	Meas.Date	Manufacture	Material	Comment
ORC	0.175	1.11	1.95	3.31	4.31	46.47					* Copied from legacy

HEADSAILS (1)

Id	HHB	HUW	HTW	HHW	HQW	HLP	HLU	Ovrlp	Area	Btn	Fly	Measurer	Meas.Date	Manufacture	Material	Comment
ORC		0.61	1.18	2.31	3.41	4.45	14.91	108%	34.04							* Copied from legacy *

SYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Measurer	Meas.Date	Manufacture	Material	Comment
ORC	16.51	16.51	16.51	7.65	7.38	104.51					* Copied from legacy *

ASYMMETRIC SPINNAKERS (1)

Id	SLU	SLE	SL	SHW	SFL	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment
ORC	16.13	16.13	16.13	5.45	7.25	78.10	asym					* Copied from legacy *