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INTERNATIONAL TWELVE METRE CLASS

Yacht's Name	<i>BLUE MARLIN</i>		
National letters and Sail Number	<i>FIN-1</i>	Club	<i>NJK Helsinki</i>
Designer	<i>Charles Nicholson</i>		
Builder	<i>Camper & Nicholson</i>	Building Year	<i>1937</i>
Owner	<i>Henrik Andersin</i>		
Owner's Address	<i>Bredavagen 36, 02777 Grankulla, Finland</i>		
Lloyds R class certificate (Number or Date)	<i>Lloyds</i>		

RATING CERTIFICATE

This yacht has been measured by measurer(s) appointed by the International Twelve Metre Association and has been found to rate not more than 12.000 metres.

This certificate is dated:	<u>13-Sep-23</u>	Signature	
Measurer	<u>Kay-Enno Brink</u>		
Valid until	<u>12-Sep-25</u>		
Supersedes	<u>16-Aug-21</u>		
Is this an Appendix E Certificate?	Y / N	<input checked="" type="checkbox"/> Y	
Was Appendix F used for Measurement?	Y / N	<input type="checkbox"/> N	
Signature 			
ITMA Technical Director	Stamp of Authority of the International Twelve Metre Association		



Yacht's name : BLUE MARLIN

Date

13-Sep-23

RATING CALCULATION**OVERALL LENGTH****21.532**

Overhang Forward to FGS

2.580

Overhang Aft to AGS

3.142

Total Overhang (Subtract)

5.722

MEASURED LENGTH (L_{BG})**15.810**

Girth at Bow

1.616

Twice vertical Height at Bow (Subtract)

1.200

Girth Difference at FGS

0.416

Add 1.5 Girth Difference at FGS (min 0.540 m)

0.624

Girth at Stern

2.978

Twice vertical Height at Stern (Subtract)

1.576

Girth Difference at AGS

1.402

Add 1/3 Girth Difference at AGS (min 0.400 m)

0.467

Add any penalty (Beam or Displacement)

0.000

Sum of Length and Girth Corrections

16.901

Age/Date Correction Factor (ADCF)(see page 3)

0.9589

LENGTH (L)**16.207**

Skin IM to d1 Port

2.106

Chain IM to d1 Port

2.102

d Port

0.004

Skin IM to d1 Starboard

2.109

Chain IM to d1 Starboard

2.105

d Starboard

0.004

Add d

0.008

Add GIRTH 2 d**0.016**

Mean Freeboard Bow

Datum Sta.	Actual Sta.	Rating FB
	1.337	1.337
	1.032	1.032
	0.968	0.968
		3.337

Mean Freeboard Midship

1.032

Mean Freeboard Stern

0.968

Sum of Freeboards

3.337

Subtract FREEBOARD, F

See Notes

1.112**Add SAIL AREAS (Square root)****13.329****TOTAL OF MEASUREMENTS****28.440**

PENALTY (Draft or Tumblehome)

0.000

RATING**12.000**

Date and Place of Measurement

13-Sep-23 Kotka

Measurer's Name(s)

Kay-Enno Brink

Signature



Yacht's name : BLUE MARLIN		Date	13-Sep-23
Range Measurement (Yes or No)	N	Date:	13-Sep-23

PENALTIES

Overhang Forward to MWL	3.085	
Overhang Aft to MWL	3.877	
Subtract from overall length	6.962	
Difference of immersion from salt to fresh water	Meas. Density	
WATERLINE LENGTH (LWL)		14.570
Minimum Displacement for Zero Penalty [m3]	28.765	
Minimum Weight for Zero Penalty [ton] (Water of sg 1.025)	29.484	
WEIGHT [tonne] Actual weight		30.639
Equivalent LWL (for Displ. < min.)	14.767	
Difference	0.197	
DISPLACEMENT PENALTY (add to L)		0.000
Displacement Determination Method	3D-Scan	
DRAFT (actual)	2.825	
Max. Draft for Zero Penalty	2.831	
Difference (if positive)		
DRAFT PENALTY (add to Rating)		0.000
BEAM (Min)	3.600	
Max Beam at 1/3 of Midship Freeboard	3.616	
Difference (if positive)		
BEAM PENALTY (add to L)		0.000
Tumblehome Max. (2 x 2% of Extr. Beam)	0.145	
Extreme Beam	3.616	
Beam at deck	3.496	
Difference (if positive)	0.120	
TUMBLEHOME PENALTY (add to Rating)		0.000

Date and Place of Measurement	13-Sep-23 Kotka	
Measurer's Name(s)	Kay-Enno Brink	Signature

Design/Age Correction Factor Calculation			
Age Date	1937		
ADCF (Table E-2)	0.9589		
Hull Alteration Scope and Date			
Appendage Change Scope and Date			
Change/Alteration Correction ADCF			
Accommodation Deficiency Ballast	none		

Yacht's name : **BLUE MARLIN**

Date

13-Sep-23**SAIL PLAN**

Max Height of Sail Plan =	<input type="text" value="25.000"/>	J=	<input type="text" value="7.290"/>	I =	<input type="text" value="18.750"/>
Boom above Mast Datum =	<input type="text" value="1.545"/>	P=	<input type="text" value="23.455"/>	E=	<input type="text" value="10.340"/>
Rated Mainsail Area	<input type="text" value="121.262"/>	Spi boom=	<input type="text" value="7.650"/>	√S=	<input type="text" value="13.329"/>
J used for Rating	<input type="text" value="7.650"/>				
Rated Foretriangle Area	<input type="text" value="60.961"/>	Propeller allowance		<input type="text" value="0.975"/>	
TOTAL RATED SAIL AREA (S)	<input type="text" value="182.223"/>	Corrected sail area		<input type="text" value="177.668"/>	

SAIL LIMITS

Mainsail max girth:	1/2 height (68% of E)	<input type="text" value="7.031"/>	3/4 height (41% of E)	<input type="text" value="4.239"/>
Genoa:	max. foot length (J + 4.8m)	<input type="text" value="12.090"/>		
Spinnaker:	1/2 foot max breadth (125% J)	<input type="text" value="9.563"/>	max. luff length=	<input type="text" value="18.700"/>

Spar Measurement

MAST (material)	<input type="text" value="aluminium"/>	Mast Weight	<input type="text"/>	CG pos.	<input type="text"/>
Mast dimensions [mm]	Deck <input type="text" value="355*247"/>	Half-Height <input type="text" value="355*247"/>	Jib-Halyard <input type="text" value="280*194"/>	Head <input type="text" value="164*1128"/>	
Sections area [cm ²]	<input type="text" value="688"/>	<input type="text" value="688"/>	<input type="text" value="426"/>	<input type="text" value="165"/>	
Mast CG Correction (if applicable) Wt & CG	<input type="text"/>		Mk ²	<input type="text"/>	

Engine/Propeller Installation

Engine and propeller weight	<input type="text" value="450 kg"/>	Propeller diameter =	<input type="text" value="0.610"/>
Minimum boat speed with engine	<input type="text" value="8.5 kn"/>	Propeller position =	<input type="text" value="on CL"/>
Propeller Type (folding feathering fixed pitch etc.), no of blades		<input type="text" value="feathering"/>	<input type="text" value="3"/>
Propeller Skew			<input type="text" value="-"/>

Flotation

1	The water tank was filled with 115 l water when the yacht was presented for measurement.	
2	Secondary anchor chain in front locker	214 kg located 3.5 m from stem
3	Bow thruster with batteries	240 kg located 5.0 m from stem
4	Li-Ion services and engine batteries	170 kg located 14.4 m from stem
5	Anchor chain/rope	within 3.0 m aft of the mast
6	Internal ballast in the bilge	20 kg located 2.2 m in front of the mast
		58 kg located 1.8 m in front of the mast
		45 kg located 5.0 m aft of the mast

Measurer's Notes

1	Draft and displacement penalties do not apply under Appendix E.
2	Rated freeboard is one third of the sum of the mean freeboards as per 1933 rule.

Date and Place of Measurement

13-Sep-23 Kotka

Measurer's Name(s)

Kay-Enno Brink
