



12

INTERNATIONAL TWELVE METRE CLASS

Yacht's Name BLUE MARLIN

National letters and Sail Number FIN-1 Club NJK Helsinki

Designer Charles Nicholson

Builder Camper & Nicholsons Building Year 1937

Owner Henrik Andersin

Owner's Address Bredavagen 36, 02700, Grankulla, Finland

Lloyds R class certificate (Number or Date) Lloyds

APPENDIX E 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 13-May-15


Measurer N.Sironi Signature Nicola Sironi


Valid until 13 May-17

Supersedes _____

Is this an **Appendix E** Certificate? Y / N


Was **Appendix F** used for Measurement? Y / N

Signature  ITMA Technical Director

 Stamp of Authority of the International Twelve Metre Association

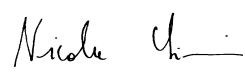
CERTIFICATE REVALIDATION

This yacht has been declared by the Owner to be unchanged from her previous revalidated certificate dated May 13 2015. Accordingly this certificate has been revalidated and remains valid until June 30, 2021.

Signature  June 30, 2019
ITMA Technical Director

RATING CALCULATION

OVERALL LENGTH			21.546
Overhang Forward to L1		2.503	
Overhang Aft to L1		3.262	
Total Overhang (Subtract)		5.765	
MEASURED LENGTH (L1 L1)			15.781
Girth at Bow		1.607	
Twice vertical Height at Bow (Subtract)		1.200	
O at Bow		0.407	
Add 1 1/2 O at Bow (min 0.540 m)		0.611	
Girth at Stern		3.059	
Twice vertical Height at Stern (Subtract)		1.634	
O at Stern		1.425	
Add 1/3 O at Stern (min 0.400 m)		0.475	
Add any penalty (Beam)		0.000	
Sum of Length and Girth Corrections			16.867
Age Date and Allowance	1937	Allowance	0.9589
CORRECT LENGTH L			16.173
Skin d to d1 Port			
Chain d to d1 Port			
d Port		0.005	
Skin d to d1 Starboard			
Chain d to d1 Starboard			
d Starboard		0.005	
Add d		0.010	
Add GIRTH 2 d			0.020
Mean Freeboard Bow O	Actual	1.308	1.308
Mean Freeboard Midship d	Actual	1.034	1.034
Mean Freeboard Stern O	Actual	0.997	0.997
Sum of Freeboards			3.339
Subtract FREEBOARD, F			1.113
Add SAIL AREAS (Square root)		See Notes	13.353
TOTAL OF MEASUREMENTS			28.433
PENALTY (Draught)			0.000
RATING			11.997

Date and place of Measurement	13-May-15	Kotka	
Measurer's Name(s)	N.Sironi	Signature	
Certificate Revalidated	June 30, 2019	Certificate valid until	June 30, 2021

PENALTIES

Overhang Forward to L	3.013
Overhang Aft to L	3.968
Subtract from overall length	6.981
Difference of imersion from salt to fresh water	

WATERLINE LENGTH

Minimum Displacement for Zero Penalty [m3]	28.737	14.565
Minimum Weight for Zero Penalty [ton] (Water of sg 1.025)	29.455	

WEIGHT [ton]

Additional weight	30430	Append E Cert
Equivalent LWL (for Displ. < min.)		
Difference		
DISPLACEMENT PENALTY (add to L)		Append E Cert

DRAUGHT (actual)

Max. Draught for Zero Penalty	2.822	
Difference (if positive)	2.830	
DRAUGHT PENALTY (add to Rating)		0.000

BEAM (Min)

Max Beam at 1/3 of Midship Freeboard	3.600	
Difference (if positive)	3.620	
BEAM PENALTY (add to L)	-0.020	0.000
Tumblehome Max. (2 x 2% of Extr. Beam)	0.145	
Extreme Beam	3.620	
Beam at deck	3.498	
Difference (if positive)	0.122	
TUMBLEHOME PENALTY (add to Rating)		0.000

Design/Age Correction Factor Calculation

Age Date	1937	
ADCF (Table E-2)	0.0000	
Hull Alteration Scope and Date		
Appendage Change Scope and Date		
Change/Alteration Correction ADCF		
Accommodation Deficiency Ballast	none	

Date and place of Measurement	May 13, 2015	Kotka
Measurer's Name(s)	N. Sironi	Signature <i>Nicola Sironi</i>
Provisional Certificate Revalidated	June 30, 2019	Certificate valid until June 30, 2021

SAIL PLAN

Max Height of Sail Plan =	25.000	J=	7.290	I =	18.750
Boom Height =	1.520	A=	23.480	B=	10.350
Rated Mainsail Area	121.509	Spi boom=	7.700	eS=	13.353
Rated Foretriangle Area	61.359	Propeller allowance	0.975		
TOTAL RATED SAIL AREA	182.868	Corrected sail area	178.297		

SAIL LIMITS

Mainsail max girth:	1/2 height (68%)	7.038	3/4 height (41%)	4.244
Genoa:	max. foot length (J + 4.8m)	12.090		
Spinnaker:	1/2 foot max breadth (125% J)	9.625	max. luff length=	18.716

Spar Measurement

MAST (material)	Aluminium	Mast Weight		CG pos.	
	Deck	Half-Height	Jib-Halyard	Head	
Mast dimensions [mm]					
Sections area [cm ²]					

Engine/Propeller Installation

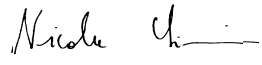
Engine and propeller weight	450 kg	Propeller diameter =	24in
Minimum boat speed with engine	8.5kts	Propeller position =	15.150
Engine model and power	Yanmar 4JH4-HTE 105 HP		

Flotation

Internal Ballast	weight	dist.from stem
1 in chain locker fwd	214kg	3.5
5 bow thruster with batteries	240kg	5
6 Li-Ion services and engine batteries	170kg	14.4
7 anchor chain+rope	30m+100m	Amidships

Measurer's Notes

1	Measured according to 1934 Rule
2	Internal ballast+chain+batteries+tanks+engine+heaters+head etc on board as detailed above
3	Certificate assumes engine and prop are fitted whilst racing
4	Certificate based on repeated floats in Kotka in fresh water, adjusted to standard SG=1.025
5	Flotation confirmed 30/6/30 in Salt Water KMCA

Date and place of Measurement	May 13, 2015 Kotka		
Measurer's Name(s)	N. Sironi	Signature	
Provisional Certificate Revalidated	June 30, 2019	Certificate valid until	June 30, 2021