



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 Ch...

Valid until 13 May-17

Supersedes _____



Signature [Signature]
ITMA Technical Director

Stamp of Authority of the
International Twelve Metre Association

PROVISIONAL CERTIFICATE REVALIDATION

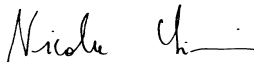
This yacht has been declared by the Owner to be unchanged from her previous revalidated certificate dated May 13 2015.

Accordingly this certificate has been revalidated and remains valid until April 6, 2020 subject to a successful flotation being carried out by a class measurer prior to racing.

Signature [Signature] April 7, 2020
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)			13.353
TOTAL OF MEASUREMENTS			28.433
<i>PENALTY (Draught)</i>			0.000
RATING			11.997

Date and place of Measurement	13-May-15	KOTKA	
Measurer's Name(s)	N.Sironi	Signature	
Provisional Certificate Revalidated	April 7, 2018	Certificate valid until	April 6 2020

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

Date and place of Measurement **13 May-15** KOTKAMeasurer's Name(s) **N.Sironi**

Signature



Provisional Certificate Revalidated

April 7, 2018

Certificate valid until

April 6 2020

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	√S=	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)	Wood	Mast Weight	630	CG pos.	9.510
Mast dimensions [mm]	Deck	Half-Height	Jib-Halyard	Head	
	340x255	340x255	276x217	177x162	
Sections area [cm ²]	709	709	482	235	

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	400kg	3.5	
2 around bow thruster	123kg	4.9	
3 around water heater	101kg	6.3	
4 under fwd sole	95kg	6.1	Total lead int.ballast 700kg
5 bow thruster with batteries	230kg	5	
6 Li-Ion services and engine batteries	170kg	14.4	
7 anchor chain+rope in fwd locker	30m+100m	3.5	

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

Date and place of Measurement	13-May-15		
Measurer's Name(s)	N.Sironi	Signature	<i>Nicola Sironi</i>
Provisional Certificate Revalidated	April 7, 2018	Certificate valid until	April 6 2020