



# 12

## INTERNATIONAL TWELVE METRE CLASS

Yacht's Name THEA

National letters and Sail Number D-1 Club Kongelig Dansk Yachtklub

Designer Johan Anker

Builder Anker & Jensen Year Built 1918

Owner Hans Michael Jebsen

Owner's Address c/o Capemille Aps, Kvæsthusgade 1, 1251 Kopenhagen

Lloyds R class certificate (Number or Date) \_\_\_\_\_

### 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 23-Sep-23

Measurer K.-E. Brink

Valid until 22-Sep-25

Supersedes 20-Dec-17

Signature 

  
Signature \_\_\_\_\_  
ITMA Technical Director



Stamp of Authority of the  
International Twelve Metre Association

# RATING CALCULATION

<b>OVERALL LENGTH</b>			<b>20.063</b>
Overhang Forward to L1		2.673	
Overhang Aft to L1		2.972	
Total Overhang (Subtract)		5.645	
<b>MEASURED LENGTH (L1 L1)</b>			<b>14.418</b>
Girth at Bow		1.694	
Twice vertical Height at Bow (Subtract)		1.200	
O at Bow		0.494	
Add 1 1/2 O at Bow (min 0.540 m)		<b>0.741</b>	
Girth at Stern		3.123	
Twice vertical Height at Stern (Subtract)		1.584	
O at Stern		1.539	
Add 1/3 O at Stern (min 0.400 m)		<b>0.513</b>	
Add any penalty (Beam)		<b>0.000</b>	
Sum of Length and Girth Corrections			<b>15.672</b>
Age Date and Allowance	1918	Allowance 0.9469	
<b>CORRECT LENGTH L</b>			<b>14.840</b>
Skin d to d1 Port		3.227	
Chain d to d1 Port		3.175	
d Port		0.052	
Skin d to d1 Starboard		3.230	
Chain d to d1 Starboard		3.176	
d Starboard		0.054	
Add d		0.106	
<b>Add GIRTH 2 d</b>			<b>0.212</b>
Mean Freeboard Bow O	Actual	1.260	1.267
Mean Freeboard Midship d	Actual	0.982	0.990
Mean Freeboard Stern O	Actual	0.965	0.972
Sum of Freeboards			3.229
<b>Subtract FREEBOARD, F</b>			<b>1.076</b>
<b>Add SAIL AREAS (Square root)</b>			<b>12.864</b>
<b>TOTAL OF MEASUREMENTS</b>			<b>26.840</b>
<i>PENALTY (Tumblehome )</i>			0.199
<b>RATING</b>			<b>11.523</b>

Date and place of Measurement	23-Sep-23	Nice	
Measurer's Name(s)	K.-E. Brink	Signature	

# PENALTIES

**OVERALL LENGTH**

	20.063
Overhang Forward to L	3.508
Overhang Aft to L	3.613
Subtract from overall length	7.121
Difference of imersion from salt to fresh water	0.008

**WATERLINE LENGTH**

	12.942
Minimum Displacement for Zero Penalty [m3]	20.535
Minimum Weight for Zero Penalty [tonnes] (Water of sg 1.025)	21.048

**ACTUAL WEIGHT [tonnes]**

	23.654
Equivalent LWL (for Displ. < min.)	13.603
Difference	0.661
DISPLACEMENT PENALTY (add to L)	0.000

**DRAUGHT (actual)**

	2.563
Max. Draught for Zero Penalty	2.571
Difference (if positive)	
DRAUGHT PENALTY (add to Rating)	0.000

**BEAM (Min)**

	3.600
Max Beam at 1/3 of Midship Freeboard	3.495
Difference (if positive)	0.105
BEAM PENALTY (add to L)	0.000
Tumblehome Max. (2 x 2% of Extr. Beam)	0.140
Extreme Beam	3.495
Beam at deck	3.289
Difference (if positive)	0.206
TUMBLEHOME PENALTY (add to Rating)	0.199

Date and place of Measurement	23-Sep-23	Nice
Measurer's Name(s)	K.-E. Brink	Signature

**SAIL PLAN**

Max Height of Sail Plan =	24.206	J=	6.850	I =	18.747
Boom Height =	1.226	A=	22.980	B=	9.310
Rated Mainsail Area	106.972	Spi boom=	7.660	eS=	12.864
Rated Foretriangle Area	61.031	Propeller allowance			0.985
TOTAL RATED SAIL AREA	168.003	Corrected sail area			165.483

**SAIL LIMITS**

Mainsail max girth:	1/2 height (68%)	6.331	3/4 height (41%)	3.817
Genoa:	max. foot length (J + 4.8m)	11.650		
Spinnaker:	1/2 foot max breadth (125% J)	9.575	max. luff length=	18.701

**Spar Measurement**

MAST (material)	Wood	Mast Weight	601	CG pos.	9.624
Mast dimensions [mm]	Deck	Half-Height	Jib-Halyard	Head	
	325*251	334*244	270*208	183*156	
Sections area [cm <sup>2</sup> ]	640	640	441	224	

**Engine/Propeller Installation**

Engine and propeller weight		Propeller diameter =	> 0.400
Minimum boat speed with engine	> 7 kn	Propeller position =	on centreline
Engine model and power			

**Flotation**

- 1 Flotation measured on the 23rd of September 2023 in Nice, specific seawater density 1.029 t/m<sup>3</sup>
- 2 Internal Ballast = 685.1 kg (stack "A" 299.95 kg, stack "B" 299.80 kg, extra stack 85.35 kg)

**Measurer's Notes**

- 1 Freeboard in Rating as per 1933-1970 Rule (Sum/3,Max 1.21)
- 2 No beam penalty applied for the Appendix E certificate
- 3 Displacement volume derived by 3D hull scan
- 4 Flotation Range Measurement was applied, hull marks valid for specific seawater density of 1.013 t/m<sup>3</sup>
- 5 New wooden mast manufactured by Robbe & Berking Classics 2017

Date and place of Measurement	23-Sep-23	Nice	
Measurer's Name(s)	K.-E. Brink	Signature	