

2 JUN 1950

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "EUROPA" EX "RIMUTAKA"	Official Number 145517	Nationality and Port of Registry PANAMANIAN PANAMA	Gross Tonnage 16576	Date of Build 1923-4	Port of Survey GENOA
Moulded Dimensions: Length 544.50 TO AFTER PART OF RIGGER POST. Breadth 71.75 Depth 42.25 TO SHELTER DK.					Date of Survey FROM 26th APR '50 TO 15th JUNE
Moulded displacement at moulded draught = 85 per cent. of moulded depth 30,000 ENGL tons moulded displacement 29,880					Surveyor's Signature <i>J. McEachern</i>
Coefficient of fineness for use with Tables .739					Particulars of Classification +DOA1 SH. DK WITH FREEBOARD.

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... 42.25	(a) Where D is greater than Table depth (D - Table depth) R = (42.30 - 36.635) 3 = +16.99"	Moulded Breadth (B) 71.75
Stringer plate54	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 5.665	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{71.75 \times 12}{50} = \mathbf{17.22}$
2 1/2" Sheathing on exposed deck SEE SKETCH ON BACK $T \left(\frac{L-S}{L} \right) = 21 \times \frac{24}{549.5} = \mathbf{.01}$	If restricted by superstructures ✓	Ship's Round of Beam (INS) 6
Depth for Freeboard (D) = 42.30		Difference 11.22
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{11.22^2}{4} \times \left(1 - \frac{0.620}{4} \right) = \mathbf{+17.17"$

NOTE: HEIGHT OF P.B. & F
= 9.0' AMOS. TO
8.5' AT ENDS.

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure 7.50
" overhang ...						" " R.Q.D. -
R.Q.D. enclosed ...						Deduction for complete superstructure 42.00"
" overhang ...						Percentage covered $\frac{S}{L} = \frac{95.64}{93.80}$
Poop & Bridge enclosed ...	439.25	439.25	8.5	-	439.25	" " $\frac{S_1}{L} = \frac{93.80}{93.80}$
" overhang aft ...						" " $\frac{E}{L} = \frac{93.80}{93.80}$
" overhang forward ...	2.50	1.25			1.25	Percentage from Table, Line A+B 92.37
F'cle enclosed EQUIV. 66.03	66.03	8.5	-	66.03	(corrected for absence of forecastle (if required))	
" overhang ...	17.42	8.71			8.71	Percentage from Table, Line B. ✓
Trunk aft ...						(corrected for absence of forecastle (if required)) ✓
" forward ...						Interpolation for bridge less than .2L (if required) ✓
Tonnage opening aft ...						Deduction = 42 x .9237 = -38.80
" " forward ...						
Total ...	525.50	515.24			515.24	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate INCHES	Effective Ordinate	S	M	Product	
A.P. ...	64.95	1	64.95	60.00	60.00	1	60.00			Mean actual sheer aft Deficient
1/2 L from A.P. ...	28.90	4	115.60	27.00	27.00	4	108.00			Mean standard sheer aft =
1/2 L " ...	7.145	2	14.29	7.00	7.00	2	14.00			Mean actual sheer forward Deficient (.968)
Amidships ...	-	4	-	0	-	4	-			Mean standard sheer forward =
1/2 L from F.P. ...	14.29	2	28.58	14.00	14.00	2	28.00			Length of enclosed superstructure forward of amidships = > .1L
1/2 L " ...	57.80	4	231.20	56.00	56.00	4	224.00			Sheer "Rund" " Standard aft of 72.09
F.P. ...	129.90	1	129.90	125.00	125.00	1	125.00			216.27 210 335 346.17 .968
Total ...			584.52				559.00			

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{25.52}{18} \left(.75 - \frac{4782}{2718} \right) = \mathbf{+ .39"} \mathbf{✓}$

If limited on account of midship superstructure. **✓**

If limited to maximum allowance of 1 1/2 ins. per 100 ft. **✓**

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **42.29** Ft.
Summer freeboard = **8.62**
Moulded draught (d) = **33.67**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **8.42** 214 mm. **✓**

Addition for Winter North Atlantic Freeboard (if required) = **-**

Deduction for Fresh Water.

Full Ext. Displacement in salt water at summer load water line **33,105**
 $\Delta = 28,094$ TONS (ENG)
Full TONS per inch immersion at summer load water line **33,105**
 $T = 76.7$

Deduction = $\frac{\Delta}{40 T}$ inches = **9.16"**

= **233 mm.** **✓**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient **7.39 + 68 = 1.419**
1.36 **1.36**

Depth Correction ... **16.99**
Deduction for superstructures ... **38.80**
Sheer correction ... **39**
Round of Beam correction ... **17**
Correction for Thickness of Deck amidships ... **12**
Other corrections, scantlings, etc. to correspond **3.57**
to a summer moulded draught of **33'-8"**
Summer Freeboard = **103.50** **✓**

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc ... **447 mm** **✓**
Fresh Water Line " " ... **233** **✓**
Tropical Line " " ... **214** **✓**
Winter Line below " " ... **214** **✓**
Winter North Atlantic Line " " **Not assigned.**

Tropical Fresh Water Freeboard ... **21.82** **✓**
Fresh Water " " ... **20.56** **✓**
Tropical " " ... **24.15** **✓**
Winter " " ... **23.75** **✓**
Winter North Atlantic " " **Not assigned**

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Forecastle - Equivalent length.

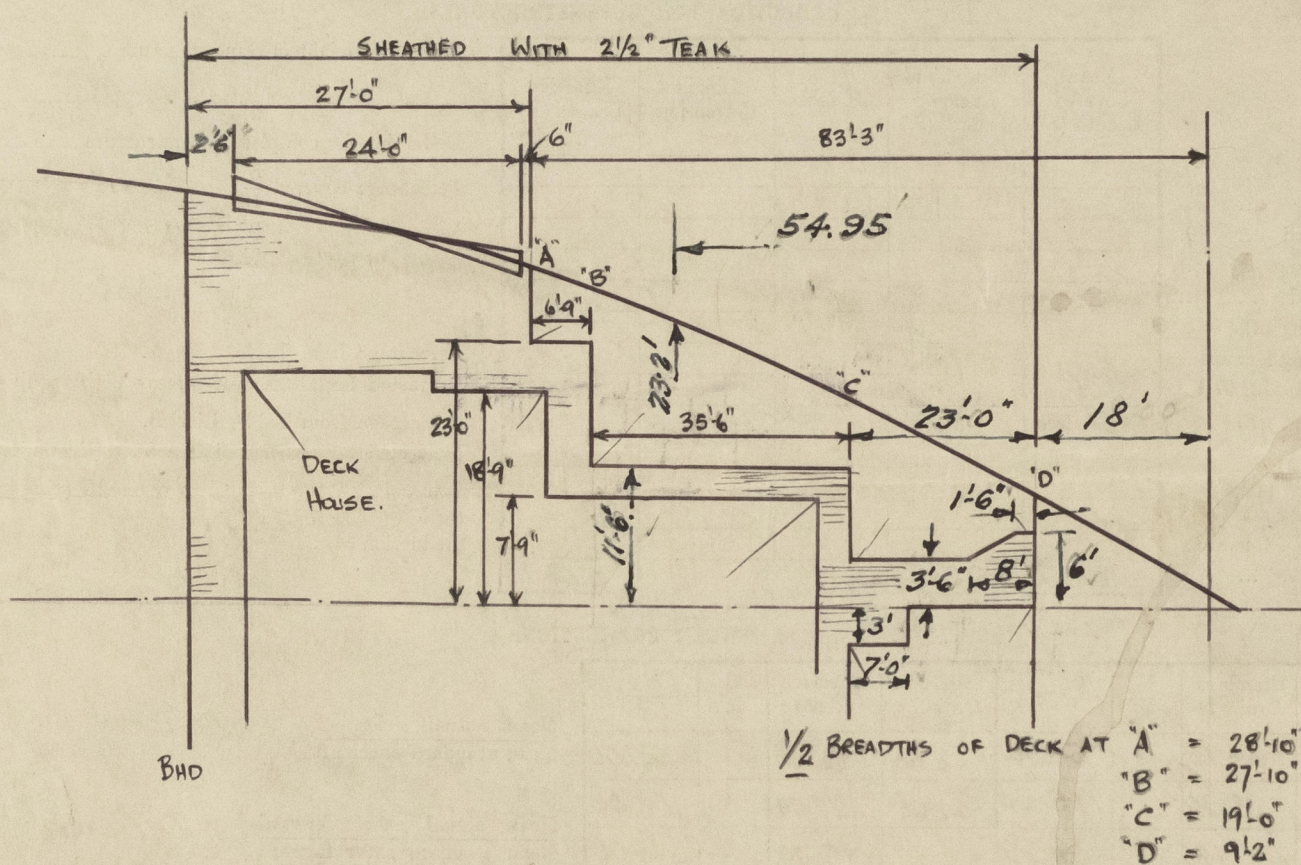
$$54.95 - \frac{13.95 \times 11.5 + 23 \times 1.75 + 7 \times 1.5 + 1.5 \times 1.25 + 3.25 \times 1.25}{23.2}$$

$$\left(\frac{28.30 - \frac{23.0 \times 6.75 + 21.55 \times 11.5}{23.2}}{23.2} \right) + .5$$

Overhang

S	S.
45.59	45.59
9.36	9.06
11.38	11.38
17.42	8.71
83.75	66.03

SKETCH OF FOREWELL ON FREEBOARD.



Trade of ship INTERNATIONAL - PASSENGER & CARGO.

Names of sister ships ✓

Builder's name and yard number ARMSTRONG WHITWORTH & CO. LTD. (BUILT 1923)

Owners "INCREC" COMPANIA de NAVEGACION S.A.

Fee £ 64 : 8 : 0 } PAYABLE IN LONDON -
EXPS. £ 1 : 19 : 0 } in sum ££.30/5/80.



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