

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "TROCHISCUS" EX- FORT MATANZAS	Official Number 181835	Nationality and Port of Registry BRITISH LONDON	Gross Tonnage 10668.39	Date of Build 1944	Port of Survey CARDIFF
Moulded Dimensions: Length 503.00' ✓ Breadth 68.00' ✓ Depth 39.25' ✓ To centre of rudder stock					Date of Survey 29-1-48
Moulded displacement at moulded draught = 85 per cent. of moulded depth 24300 tons					Surveyor's Signature <i>Denis Sullivan</i>
Coefficient of fineness for use with Tables .745					Particulars of Classification class contingent

DEPTH FOR FREEBOARD (D). Moulded depth ... 39.25' ✓ Stringer plate08' ✓ Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 39.33' ✓	DEPTH CORRECTION. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(39.33 - 33.53) \times 3 = +17.40'$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ If restricted by superstructures	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 68.00' ✓ Standard Round of Beam = $\frac{B \times 12}{50} = \frac{16.32}{18}$ Ship's Round of Beam Difference 68.00' - 18" = 1.68' Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S}{L} \right) = \frac{1.68}{4} \times \left(1 - \frac{33.53}{503} \right) = .42 \times .993 = .417$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	108.67	108.67	8.0	-	108.67
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	38.67	38.67	8.0	-	38.67
" overhang aft					
" overhang forward					
F'cle enclosed	53.0	53.00	10.0	-	53.00
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	200.34	200.34			200.34

Standard Height of Superstructure **7.50'**
 " " R.Q.D.
 Deduction for complete superstructure **42.00'**
 Percentage covered $\frac{S}{L} = \frac{39.83}{503} = .079$
 " " $\frac{S_1}{L} = \frac{39.83}{503}$
 " " $\frac{E}{L} = \frac{39.83}{503}$
 Percentage from Table, Line A **Tanker 30.83**
 (corrected for absence of forecastle (if required))
 Percentage from Table, Line B
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than .2L (if required)
 Deduction = $42 \times .3083 = -12.95'$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	60.30	1		60.30	24.00	✓ 24	1		24
1/4 L from A.P.	26.83	4		107.32	4.00	✓ 4	4		16
1/2 L	6.63	2		13.26	-		2		-
Amidships	-	4		-	-		4		-
3/4 L from F.P.	13.27	2		26.54	-		2		-
1/4 L	53.67	4		214.68	6.00	✓ 6	4		24
F.P.	120.60	1		120.60	18.00	✓ 18	1		18
Total				542.70					82.00

Mean actual sheer aft = **deficient**
 Mean standard sheer aft =
 Mean actual sheer forward = **deficient**
 Mean standard sheer forward =
 Length of enclosed superstructure forward of amidships = **Tanker**
 " " aft of " =
 Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{460.70}{18} \left(\frac{.75 - .1992}{.5508} \right) = +14.10$
 If limited on account of midship superstructure, limited to maximum allowance of 1 1/4 ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **39.33**
 Summer freeboard = **9.23**
 Moulded draught (d) = **30.10**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $\frac{30.10}{4} = 7.525 = 7 \frac{1}{2}$

Addition for Winter North Atlantic Freeboard (if required) = $7.52 + 5.03 = 12.55 = 12 \frac{1}{2}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 1890$
 Tons per inch immersion at summer load water line
 $T = 67.0$

Deduction = $\frac{\Delta}{40 T}$ inches
 $= \frac{1890}{40 \times 67} = 8.17$
 $= 8 \frac{1}{4}$

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

88.19	
92.40	
17.40	
2.95	
14.10	
.25	
88.19	
10.70	
92.40	
18.30	
110.70	

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

Tropical Fresh Water Line above Centre of Disc **15 3/4"**
 Fresh Water Line " **8 1/4"**
 Tropical Line " **7 1/2"**
 Winter Line below " **7 1/2"**
 Winter North Atlantic Line " **12 1/2"**

Tropical Fresh Water Freeboard **7 1/4"**
 Fresh Water **8 1/4"**
 Tropical **8 1/4"**
 Winter **8 1/4"**
 Winter North Atlantic **10 1/4"**