

Preliminary Computation

Side Openings Closed but not stairways

Lloyd's Register of Shipping.

Index. No. 33689
(For London Office only).

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name LIMPOPO	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build 1930	Port of Survey
Moulded Dimensions: Length 170.0 Breadth 30.0 Depth 11.50					Date of Survey 16/10/42
Moulded displacement at moulded draught = 85 per cent. of moulded depth					Surveyor's Signature
Coefficient of fineness for use with Tables .68 (assumed)					Particulars of Classification 100 A1

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth	11.50	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	30.0
Stringer plate	.03	(11.58 - 11.33) 1.307 =	+ .33	Standard Round of Beam = $\frac{B \times 12}{50}$	7.2
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \frac{2\frac{1}{2}}{12} (.235)$.05	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	7.5
Depth for Freeboard (D) =	11.58	If restricted by superstructures	✓	Difference	.3
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{.3}{4} \times .3124 = -.02$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	18.83	18.83	8.0		18.83
" overhang	23.83	11.92	8.0		11.92
R.Q.D. enclosed	-	-	-		-
" overhang	-	-	-		-
Bridge enclosed	60.79	60.79	8.0		60.79
" overhang aft	4.88	3.64	8.0		3.64
" overhang forward	21.70	21.70	8.0		21.70
Fore enclosed	-	-	-		-
" overhang	-	-	-		-
Trunk aft	-	-	-		-
" forward	-	-	-		-
Tonnage opening aft	-	-	-		-
" " forward	-	-	-		-
Total	130.03	116.98			116.98

Standard Height of Superstructure	6.00
" " R.Q.D.	✓
Deduction for complete superstructure	23.00
Percentage covered $\frac{S}{L} =$	76.50
" " $\frac{S_1}{L} =$	68.76
" " $\frac{E}{L} =$	68.76
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	60.89
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	✓
Interpolation for bridge less than .2L (if required)	"
Deduction =	23 x .6089 = 14.00

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate From Curve	Effective Ordinate	S	M	Product
A.P.	27.00	1		27.00	27.00	27.00	1		27.00
$\frac{1}{4}L$ from A.P.	12.01	4		48.04	11.70	11.70	4		46.80
$\frac{3}{4}L$	2.97	2		5.94	3.00	3.00	2		6.00
Amidships	-	4		-	-	-	4		-
$\frac{3}{4}L$ from F.P.	5.94	2		11.88	6.00	6.00	2		12.00
$\frac{1}{4}L$	24.03	4		96.12	23.40	23.40	4		93.60
F.P.	54.00	1		54.00	54.00	54.00	1		54.00
Total				242.98					239.40

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{3.58}{18} (.75 - .3825) = +.073$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 11.535
Summer freeboard = 1.6535
Moulded draught (d) = 10.88

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = $\frac{10.88}{4} = 2.72 = 2\frac{3}{4}$

Addition for Winter North Atlantic Freeboard (if required) =

$4\frac{3}{4}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

$T =$

Deduction = $\frac{\Delta}{40T}$ inches

$=$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	.33	-
Deduction for superstructures	-	14.00
Sheer correction	.07	-
Round of Beam correction	-	.02
Correction for Thickness of Deck amidships	-	.36
Other corrections, scantlings, etc.	-	-
Summer Freeboard	4.0	14.42

18.30
18.30

Summer Freeboard = 7.68432

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

Tropical Fresh Water Line above Centre of Disc	4 3/4
Fresh Water Line	2 1/2
Tropical Line	2 1/4
Winter Line below	2 3/4
Winter North Atlantic Line	4 3/4

Tropical Fresh Water Freeboard	0.12
Fresh Water	0.13 1/4
Tropical	0.2 (limited)
Winter	0.7
Winter North Atlantic	0.9

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.

Tide Enclined

$$1.83 \times 6.5 = 11.90$$

$$\div 10.5 = \frac{11.90}{10.5} = 1.13$$

$$\frac{22.83}{21.70}$$

Bridge Paragrap

$$1625 \times 3.0 = 4875$$

$$7.25 \times 3.0 = 21.75$$

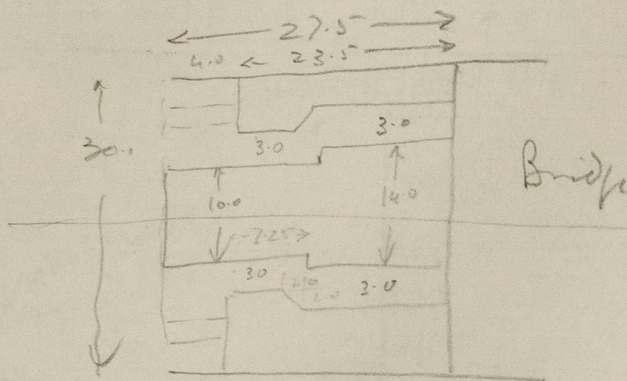
$$2.08$$

$$\text{Area inside } 72.50$$

$$\therefore \text{Correction} = \frac{72.50}{15.0} = 4.83$$

$$\frac{65.67}{60.84}$$

$$\begin{array}{r} 27'-6'' \\ 23'-10'' \\ \hline 51-4 \\ 27'-6'' \\ \hline 23'-10'' \end{array}$$



$$\begin{array}{r} 22-10 \\ 1-10 \\ 33-0 \\ 42-2 \\ 27-6 \\ 13-10 \\ 18-10 \\ \hline 170-0 \end{array}$$

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £



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