

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name **"EMPIRE TAGALAND"**
(Ex "MITTLEMEER")

Official Number **180586**

Nationality and Port of Registry **BRITISH LONDON.**

Gross Tonnage **5783**

Date of Build **1927-6**

Port of Survey **LIMMINGHAM**

Date of Survey **27th June, 1945**
Subsequently

Surveyor's Signature **F. J. Palmer**

Moulded Dimensions: Length **411'-9"** Breadth **54'-96"** Depth **32'-9"**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **14750** tons

Coefficient of fineness for use with Tables **.819**

Particulars of Classification ☒

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth	32.75	(a) Where D is greater than Table depth (D-Table depth) R = $(32.80 - 27.43) \times 3 = +16.11$		Moulded Breadth (B)	55.0
Stringer plate	.052	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = 5.37		Standard Round of Beam = $\frac{B \times 12}{50}$	13.19
Sheathing on exposed deck				Ship's Round of Beam	13.4
$T \left(\frac{L-S}{L} \right) =$				Difference	.21
Depth for Freeboard (D) =	32.80	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{.21^2}{4} \times .5767 = -.03$

DEDUCTION FOR SUPERSTRUCTURES.					
	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	106.60	106.80	7.5	-	106.80
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	28.50	28.50	7.5	-	28.50
" overhang aft					
" overhang forward	38.49	38.49	7.5	-	38.49
F'cle enclosed <i>equivalent</i>	39.32	39.32	7.5	-	39.32
" overhang	.85	.51			.51
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	174.64	174.30			174.30

Standard Height of Superstructure **7.5**

" " R.Q.D. **-**

Deduction for complete superstructure **42.2**

Percentage covered $\frac{S}{L} = 42.42$

" " $\frac{S_1}{L} = 42.33$

Percentage from Table, Line A. **Tankers 33.33**
(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 x 33.33 = 14.00**

SHEER CORRECTION.							
Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S
A.P.	51.17	1		51.17	36.00	36.00	1
$\frac{1}{8}L$ from A.P.	22.77	4		91.08	7.50	7.50	4
$\frac{3}{8}L$ "	5.63	2		11.26	.50	.50	2
Amidships	-	4		-	NIL	-	4
$\frac{5}{8}L$ from F.P.	11.26	2		22.52	1.00	1.00	2
$\frac{7}{8}L$ "	45.54	4		182.16	22.50	22.50	4
F.P.	102.35	1		102.35	93.00	93.00	1
Total				460.54			

Mean actual sheer aft = **Deficient**

Mean standard sheer aft = **Deficient**

Mean actual sheer forward = **Deficient**

Mean standard sheer forward = **Deficient**

Length of enclosed superstructure forward of amidships = **Tanked**

" " aft of " = **Tanked**

Sheer forward

11.26 3 33.78 1.00 3 3.00 163.5 5995

45.54 3 136.62 22.50 3 67.50 27225

102.35 1 102.35 93.00 1 93.00 163.50

272.75

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{208.54}{18} \left(.75 - \frac{.2121}{2 \times 174.30} \right) = +6.23$

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

Deduction for Tropical Freeboard.		Deduction for Fresh Water.		TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line	$\Delta = 13030$	Correction for coefficient	$\frac{.819 + .68}{1.36} = 1.499$
Depth to Freeboard Deck =	32.80	Tons per inch immersion at summer load water line	T = 48.8	Depth Correction	16.11
Summer freeboard =	6.69	Deduction = $\frac{\Delta}{40 T}$ inches	$\frac{13030}{40 \times 48.8} = 6\frac{3}{4}$	Deduction for superstructures	14.00
Moulded draught (d) =	26.11			Sheer correction	6.23
Deduction for Tropical freeboard and addition for				Round of Beam correction	.03
Winter freeboard = $\frac{d}{4}$ inches =	6.53 = 6 $\frac{1}{2}$			Correction for Thickness of Deck amidships	-
Addition for Winter North Atlantic Freeboard (if required) =	6.53 + 4.12 = 10.65 = 10 $\frac{3}{4}$			Other corrections, scantlings, etc.	-
				Summer Freeboard =	80.33

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

Tropical Fresh Water Line above Centre of Disc	13 $\frac{1}{4}$ "	Tropical Fresh Water Freeboard	6'-8 $\frac{1}{4}$ "
Fresh Water Line	6 $\frac{3}{4}$ "	Fresh Water	5'-7"
Tropical Line	6 $\frac{1}{2}$ "	Tropical	6'-1 $\frac{1}{2}$ "
Winter Line below	6 $\frac{1}{2}$ "	Winter	7'-2 $\frac{3}{4}$ "
Winter North Atlantic Line	10 $\frac{3}{4}$ "	Winter North Atlantic	7'-9"

File . $\frac{2.83 \times 13.5}{45} = - \frac{39.34}{38.49}$

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