

15 NOV 1944

Index No.

(For London Office only.)

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

MOB. 17744.

(COMPUTATION FOR TANKER.)

Ship's Name FURNESS YARD N° 361. S/S. "WAVE EMPEROR"	Official Number 180034	Nationality and Port of Registry BRITISH London MIDDLESBROUGH	Gross Tonnage 8196 8130 (Approx.)	Date of Build 1944.	Port of Survey MIDDLESBROUGH.
Moulded Dimensions: Length 465'-0" Breadth 64'-0" Depth 35'-6" To centre of moulded draught MOULDED DRAFT = 28-3/4" = 16300 TONS. Moulded displacement at moulded draught = 85 per cent. of moulded depth 30.175' = 17605 tons. DEPTH OF KEEL = 1.79" BELOW BASE LINE. Coefficient of fineness for use with Tables .685					Date of Survey WHILE BUILDING.
Surveyor's Signature H. Young					Particulars of Classification CARRYING PETROLEUM IN BULK. LONGITUDINAL FRAMING AT BOTTOM & AT DECK. CLASS CONTEMPLATED.

DEPTH FOR FREEBOARD (D). Moulded depth ... 35.50 Stringer plate ... 80"067 Sheathing on exposed deck NIL. $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 35.50	DEPTH CORRECTION. (a) Where D is greater than Table depth (D-Table depth) R = (35.57-31.07) x 3 = +13.50 (b) Where D is less than Table depth (if allowed) (Table depth-D) R = If restricted by superstructures	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 64' Standard Round of Beam = $\frac{B \times 12}{50} = 15.36$ Ship's Round of Beam = EQUIV. 16.13 Difference UPPER DECK AT CENTRE IS HORIZONTAL DIFF FROM AFT PERP. TO 126'-1" FROM F.P. = .77 Restricted to Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.77}{4} \times .5132 = -.10$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	125.79	125.79	7'-6"	✓	125.79
" overhang	NIL				
R.Q.D. enclosed	✓				
" overhang	✓				
Bridge enclosed	47.00	47.00	7'-6"	✓	47.00
" overhang aft	1.87	1.87			1.87
" overhang forward	NIL				
F'cle enclosed	52.19	52.19	7'-6"	✓	52.19
" overhang	2'-3" IN CENTRE				
Trunk aft	✓				
" forward	✓				
Tonnage opening aft	✓				
" " forward	227.48				
Total	228.77	226.85			226.85

Standard Height of Superstructure	7.5'
" " R.Q.D.	✓
Deduction for complete superstructure	42
Percentage covered $\frac{S}{L} =$	48.82
" " $\frac{S_1}{L} =$	48.68
Percentage from Table, Line A. Tanker	39.68
(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 39.68 = -16.67

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	56.60	1	56.60	13.	13	1	13.0
1/8 L from A.P.	25.185	4	100.74	2.25	2.25	4	9.0
3/8 L	6.225	2	12.45	0	-	2	-
Amidships	-	4	-	0	-	4	-
5/8 L from F.P.	12.45	2	24.90	0	-	2	-
7/8 L	50.37	4	201.48	11.625	11.625	4	46.5
F.P.	113.19	1	113.19	84.	84	1	84.0
Total			509.36				152.5

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{356.86}{18} (.75 - .2441) = +10.03$
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 = 35.57
Summer freeboard = 7.19
Moulded draught (d) = 28.38

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 7.09 = 7

Addition for Winter North Atlantic Freeboard (if required) = 7.09 + 4.66 = 11.75 = 11 3/4

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 16378$

Tons per inch immersion at summer load water line

T = 57

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

= 7.18 = 7 1/4

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.685 + .68}{1.36} = \frac{1.365}{1.36}$

	+	-
Depth Correction	13.50	-
Deduction for superstructures	-	16.67
Sheer correction	10.03	-
Round of Beam correction	-	.10
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	23.53	16.77

Summer Freeboard = 86.24

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

Tropical Fresh Water Line above Centre of Disc	14 1/4"	Tropical Fresh Water Freeboard	26.0
Fresh Water Line	7 1/4"	Fresh Water	6.7
Tropical Line	7"	Tropical	6.7 1/4"
Winter Line below	7"	Winter	7.8 1/4"
Winter North Atlantic Line	11 3/4"	Winter North Atlantic	8.2

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.

POOP

$$\begin{array}{r} 126.25 \\ 122.00 \\ \hline 4.25 \times \frac{2}{3} = 2.83 \\ 122.00 \\ .96 \\ \hline 125.79 \end{array}$$

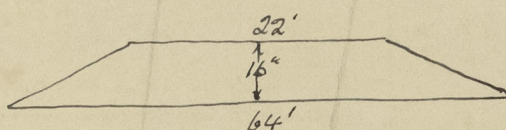
BRIDGE

$$\begin{array}{r} 48.5 \\ 44.0 \\ \hline 4.5 \times \frac{2}{3} = 3.00 \\ 44.00 \\ \hline 47.00 \end{array}$$

FORECASTLE

$$\begin{array}{r} 18 \times 26 = \\ \hline 5337 \\ 46.5 \end{array} \quad \begin{array}{r} 62.25 \\ - 8.77 \\ \hline 53.48 \\ 52.19 \end{array}$$

Round of Beam



$$\begin{aligned} \text{Area} &= \frac{16}{12} \times 22 = 29.33 \\ &+ \frac{16}{12} \times \frac{42}{2} = \frac{28.00}{57.33 \div 64 = .896} \\ .896 \times \frac{3}{2} &= 1.344 = 16.13'' \end{aligned}$$

Quint

Trade of ship TANKER

Names of sister ships S/S EMPIRE BOUNTY (N° 356) S/S EMPIRE LAW (N° 357) S/S EMPIRE MILNER (N° 358) S/S EMPIRE PALADIN (N° 359)
S/S EMPIRE PROTECTOR (N° 360)

Builder's name and yard number FURNESS S.B. CO LTD YARD N° 361

Owners ADMIRALTY (R.F.A.)

Fee £ WILL BE CHARGED ON FIRST ENTRY REPORT.



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Foundation