

Empire Raleigh
36613.
etc.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. 36624
(For London Office only).

11 SEP 1941

B.T. COPY.

MARTHA KLEPPE (COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name KONGOVERRE <i>ex "EMPIRE GREENFELL"</i>	Official Number 169600	Nationality and Port of Registry British <i>oslo</i> Sunderland	Gross Tonnage 7250 <i>7238</i>	Date of Build 1941	Port of Survey Sunderland
Moulded Dimensions: Length 421.87 Breadth 56.21 Depth 38.07 TO UPPER DK. 29.0 TO SECOND DK.					Date of Survey During Construction
Moulded displacement at moulded draught = 85 per cent. of moulded depth 16,720 tons					Surveyor's Signature H.M. Duncan
Coefficient of fineness for use with Tables .762					Particulars of Classification #100 A 1 With freeboard (Contemplated)

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 38.07	(a) Where D is greater than Table depth (D - Table depth) R = (38.13 - 28.12) x 3 = 30.03	Moulded Breadth (B) 56.21
Stringer plate 5/806	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 10.01	Standard Round of Beam = $\frac{B \times 12}{50} = \mathbf{13.49}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓	If restricted by superstructures	Ship's Round of Beam = 13.12
Depth for Freeboard (D) = 38.13		Difference .37
		Restricted to ✓
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.37}{4} \times 1 = \mathbf{+.09"}.$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...					

Flush Deck.
Sheers forward increased

Standard Height of Superstructure **✓**
" " R.Q.D. **✓**
Deduction for complete superstructure **✓**
Percentage covered $\frac{S}{L} =$
" " $\frac{S_1}{L} =$
" " $\frac{E}{L} =$
Percentage from Table, Line A.
(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 = **✓**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.19	1		52.19	60.06	60.06	1		60.06
$\frac{1}{2}$ L from A.P. ...	23.22	4		92.88	26.56	26.56	4		106.24
$\frac{3}{8}$ L " ...	5.74	2		11.48	6.56	6.56	2		13.12
Amidships ...		4			✓		4		
$\frac{3}{8}$ L from F.P. ...	11.48	2		22.96	13.50	13.50	2		27.00
$\frac{1}{2}$ L " ...	46.45	4		185.80	53.875	53.875	4		215.50
F.P. ...	124.37	1		124.37	120.50	120.50	1		120.50
Total ...				469.68					542.42

Mean actual sheer aft = **72.74**
Mean standard sheer aft = **72.74**
Mean actual sheer forward = **12.74**
Mean standard sheer forward = **12.74**
Length of enclosed superstructure forward of amidships = **18**
" " aft of " = **Nil.**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{72.74 - 12.74}{18} \times .75 = \mathbf{-3.03"}.$
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.	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = \mathbf{13740}$ Tons per inch immersion at summer load water line $T = \mathbf{48.71}$ Deduction = $\frac{\Delta}{40T}$ inches $= \mathbf{7"}.$	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{72.38 + 6.33}{1.36} = \mathbf{1.44}$ Depth Correction ... 30.03 Deduction for superstructures ... 3.03 Sheer correction09 Round of Beam correction ... 14.10 Correction for Thickness of Deck amidships ... 44.22 Other corrections, scantlings, etc. to conform to a summer moulded draught of $27' - 2\frac{1}{2}"$.
Depth to Freeboard Deck = 38.13 Summer freeboard = 10.92 Moulded draught (d) = 27.21 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6$\frac{3}{4}"$ Addition for Winter North Atlantic Freeboard (if required) = ✓		84.71 - 89.81 - 82.8 - 12.94 - + 41.19 Summer Freeboard = 131.00

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

Tropical Fresh Water Line above Centre of Disc ... 13$\frac{3}{4}"$	Tropical Fresh Water Freeboard ... 10' - 11"
Fresh Water Line " " ... 7"	Fresh Water " " ... 9' - 9$\frac{1}{4}"$
Tropical Line " " ... 6$\frac{3}{4}"$	Tropical " " ... 10' - 4"
Winter Line below " " ... 6$\frac{3}{4}"$	Winter " " ... 10' - 4$\frac{1}{4}"$
Winter North Atlantic Line " " ... ✓	Winter North Atlantic " " ... 11' - 5$\frac{3}{4}"$

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.

$$85\% \text{ depth moulded} = 0.85 \times 38.07 = 32.36'$$

$$\text{Moulded displacement at } 32.36' \text{ Mld draft} = 16,720 \text{ Tons. S.W.}$$

$$\text{Tons per inch} = 50.10$$

$$\text{Moulded block coefficient} = \frac{16720 \times 35}{421.88 \times 56.21 \times 32.36} = .762$$

$$\text{Displacement at load draft } 27'-4\frac{1}{8}" = 13752 \text{ Tons.}$$

$$\text{Tons per inch at load draft } 27'-4\frac{1}{8}" = 48.79$$

Keel $2\frac{1}{4}"$

Stringer $\frac{5}{8}"$

Camber of beam, upper Bk., Amidships ($53'-10\frac{1}{4}"$ Breadth) = $1'-1\frac{1}{8}"$

Amidships

Trade of ship

Names of sister ships

Same Builders No. 677 "Empire Raleigh"

Builder's name and yard number

Wm Duxford & Sons Ltd No 678

Owners

Ministry of War Transport.

Fee £

18 0 0

Will be charged on completion.



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Foundation