

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.  
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

G.R.K. REPORT NO 23258.

Ship's Name <b>'EMPIRE RITA'</b>	Official Number <b>169470</b>	Nationality and Port of Registry <b>BRITISH GLASGOW.</b>	Gross Tonnage <b>295</b>	Date of Build <b>WHILE BUILDING.</b>	Port of Survey <b>PORT GLASGOW</b>
Moulded Dimensions: Length <b>115'-0"</b> Breadth <b>27'-6"</b> Depth <b>13'-6"</b>					Date of Survey <b>WHILE BUILDING.</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>580</b> tons					Surveyor's Signature <i>J. J. Jamison</i>
Coefficient of fineness for use with Tables <b>.68 (.559 actual)</b>					Particulars of Classification <b>+100 A.I. FOR TOWING SERVICES. (CONTEMPLATED)</b>

<b>Depth for Freeboard (D).</b> Moulded depth ... <b>13'-5"</b> Stringer plate ... <b>.35"</b> Sheathing on exposed deck <b>2 3/4" O.P. OVER ACCOMMODATION</b> $T \left( \frac{L-S}{L} \right) = \frac{2.5}{12} \times \frac{27}{115} = .05$ Depth for Freeboard (D) = <b>13'-58"</b>	<b>Depth correction.</b> (a) Where D is greater than Table depth (D-Table depth) R = $(13.58 - 7.67) \times .885 = +5.23$ (b) Where D is less than Table depth (if allowed) (Table depth-D) R = $5.91$ If restricted by superstructures	<b>Round of Beam correction.</b> Moulded Breadth (B) <b>27'-5"</b> Standard Round of Beam = $\frac{B \times 12}{50} = \frac{6.60}{50} = .132$ Ship's Round of Beam = <b>.8"</b> Difference = <b>1.40</b> Restricted to Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{1.40}{4} = .35$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
Forecastle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...					

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 = **Nil.**

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SHEERS MEASURED FROM W.L. SERVICE TRIM 3'-0" BY STERN.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	21.50	1		21.50	18"	36.00	1		36.00
1/8 L from A.P. ...	9.57	4		38.28	8 1/4"	20.25	4		81.00
3/8 L ..	2.365	2		4.73	2"	8.00	2		16.00
Amidships ...	-	4		-	0"	-	4		-
3/8 L from F.P. ...	4.73	2		9.46	8 1/2"	2.5	2		5.00
1/8 L ..	19.135	4		76.54	31"	19.0	4		76.00
F.P. ...	43.00	1		43.00	71 1/2"	53.5	1		53.50
Total ...				193.51					267.50

Mean actual sheer aft =  
Mean standard sheer aft =  
Mean actual sheer forward =  
Mean standard sheer forward =  
Length of enclosed superstructure forward of amidships =  
" " aft of " =

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{.2L} \right) = \frac{73.99 \times .75}{18} = -3.08$   
If limited on account of midship superstructure. **No. Flush Deck**

If limited to maximum allowance of 1 1/2 ins. per 100 ft. **Yes. -1.73**

<b>Deduction for Tropical Freeboard.</b> Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = <b>13'-53"</b> Summer freeboard = <b>1'-31"</b> Moulded draught (d) = <b>12'-22"</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>3'-05"-3"</b> Addition for Winter North Atlantic Freeboard (if required) = <b>5"</b>	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line. $\Delta = 11.0 \times 551 \text{ TONS}$ $\Delta = 12.0 \times 622 \text{ "}$ Tons per inch immersion at summer load water line $T = 11.0 \times 5.88 \text{ TONS}$ $T = 12.0 \times 6.10 \text{ "}$ Deduction = $\frac{\Delta}{40T}$ inches $\frac{638}{40 \times 6.10} = 2.60$ $\frac{638}{40 \times 6.10} = 2 1/2$	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient <b>Nil.</b> Depth Correction ... <b>5'-23"</b> Deduction for superstructures ... <b>1'-73"</b> Sheer correction ... <b>.35"</b> Round of Beam correction ... <b>.60"</b> Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... Summer Freeboard = <b>15'-78"</b>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:-

Tropical Fresh Water Line above Centre of Disc ... <b>5 1/2"</b>	Tropical Fresh Water Freeboard ... <b>1'-3 3/4"</b>
Fresh Water Line " " ... <b>2 1/2"</b>	Fresh Water " " ... <b>0'-10 1/4"</b>
Tropical Line " " ... <b>3"</b>	Tropical " " ... <b>1'-1 1/4"</b>
Winter Line below " " ... <b>3"</b>	Winter " " ... <b>1'-0 3/4"</b>
Winter North Atlantic Line " " ... <b>5"</b>	Winter North Atlantic " " ... <b>1'-6 3/4"</b>



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.

Trade of ship TOWING SERVICES

Names of sister ships "EMPIRE FRIEDA"

Builder's name and yard number FERGUSON BROS (P.G.) LTD N° 378.

Owners MINISTRY OF WAR TRANSPORT.

Fee £ 4-0-0.



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