

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "EMPIRE GROSVENOR."	Official Number 169457	Nationality and Port of Registry British. Glasgow.	Gross Tonnage 890	Date of Build 1945.	Port of Survey Glasgow.
Moulded Dimensions: Length 190.5' Breadth 32.0' Depth 14.75' <i>to centre of rudder stock.</i>					Date of Survey Whilst building.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1543 tons					Surveyor's Signature A. Dickason
Coefficient of fineness for use with Tables 7.07					Particulars of Classification +100-A-1 With (Ed) Corresponding to Draft of 13.05. Carrying petroleum in bulk (contemplated)

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 14.75'	(a) Where D is greater than Table depth (D-Table depth) R = 3.05" (14.783 - 12.70) 1.465	Moulded Breadth (B) 32.0'
Stringer plate 4.0"033'	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = —	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{32 \times 12}{50} = \mathbf{7.68"}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \mathbf{NIL.}$	If restricted by superstructures —	Ship's Round of Beam = 7.2"
Depth for Freeboard (D) = 14.783'		Difference = .18"
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.18}{4} \times \frac{2667}{4} = \mathbf{+0.01}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed AT SIDE ...	58.39	60.99	7.5	—	60.99	Standard Height of Superstructure 6.0'
" overhang AT CENTRE ...	61.26					" " R.Q.D. 3.605'
R.Q.D. enclosed AT SIDE ...	58.39		2.75			Deduction for complete superstructure 25.05'
" overhang AT CENTRE ...	61.26					Percentage covered $\frac{S}{L} = \frac{51.30}{73.93} = \mathbf{.693}$
RAISED UPPER DECK CLEAR ...	36.74	16.13	2.75	2.75/6	7.39	" " $\frac{S_1}{L} = \frac{73.93}{57.08} = \mathbf{.129}$
Bridge enclosed OF FORECASTLE ...	16.13					" " $\frac{E}{L} = \frac{57.08}{48.79} = \mathbf{.117}$
" overhang aft ...						Percentage from Table, Line A, Tanker 48.79
" overhang forward ...						(corrected for absence of forecastle (if required))
F'cle enclosed ...	20.61	20.61	7.0		20.61	Percentage from Table, Line B.
" overhang ...						(corrected for absence of forecastle (if required))
Trunk aft ... 92.15 ... 32 ...	92.0	43.12	2.75	2.75/6	14.76	Interpolation for bridge less than .2L (if required)
" forward ...						Deduction = 25.05 × .4879 = 12.22
Tonnage opening aft ...						
" forward ...						
Total ...	97.73	140.85			108.75	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	29.05	1		29.05	4.87	4.87	1		4.87
1/8 L from A.P. ...	12.93	4		51.72	0.12	0.12	4		0.48
3/8 L " ...	3.195	2		6.39	—	—	2		—
Amidships ...	—	4		—	—	—	4		—
3/8 L from F.P. ...	6.39	2		12.78	—	—	2		—
1/8 L " ...	25.85	4		103.40	0.63	0.63	4		2.52
F.P. ...	58.10	1		58.10	5.88	5.88	1		5.88
Total ...				261.44					13.75

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{247.69(75 - .2565)}{18} = \mathbf{+6.79}$

If limited on account of midship superstructure. **—**

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 = **Deficient**

" " aft of " = **Sheer**

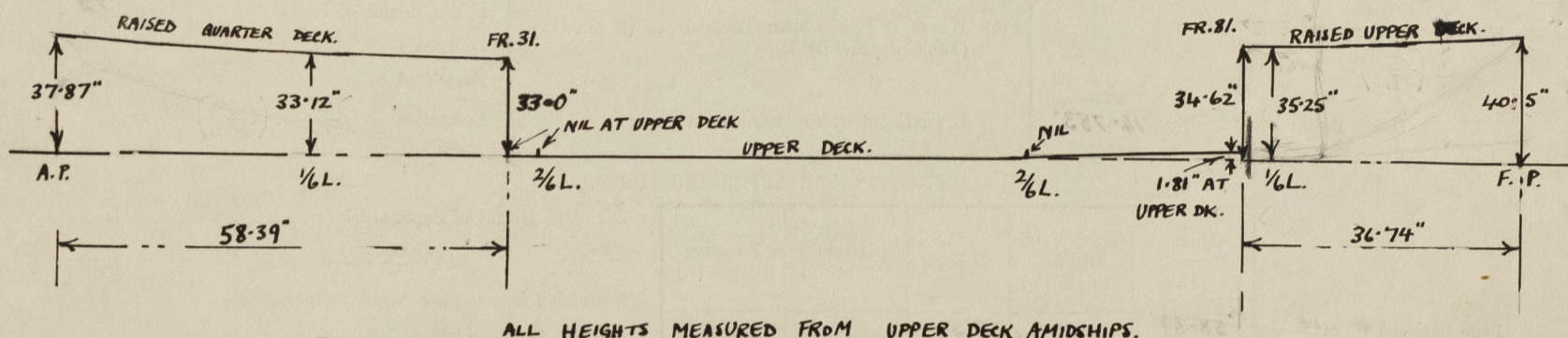
Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line $\Delta = \mathbf{1632}$	Correction for coefficient $\frac{707 + .68}{1.36} = \frac{1.387}{1.36}$
Depth to Freeboard Deck = 14.78	Tons per inch immersion at summer load water line $T = \mathbf{12}$	Depth Correction 3.05
Summer freeboard = 1.73	Deduction = $\frac{\Delta}{40 T} \text{ inches} = \frac{1632}{480} = \mathbf{3.4"$	Deduction for superstructures 12.22
Moulded draught (d) = 13.05	DRAFT MLD. TOTAL DIS. T.P.I. 12.6" 1548 11.9 13.0" 1625 12.0 13.6" 1700 12.1	Sheer correction 6.79
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4} \text{ inches} = \frac{13.05}{4} = \mathbf{3.26} = \mathbf{3\frac{1}{4}}$		Round of Beam correction01
Addition for Winter North Atlantic Freeboard (if required) = 5\frac{1}{4}		Correction for Thickness of Deck amidships 1.11
		Other corrections, scantlings, etc. to summer draught of 13.05 (13.05 actual)
		Summer Freeboard = 20.75

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

Tropical Fresh Water Line above Centre of Disc ...	6\frac{3}{4}"	Tropical Fresh Water Freeboard ...	1.25"
Fresh Water Line " " ...	3\frac{1}{2}"	Fresh Water " " ...	1.25"
Tropical Line " " ...	3\frac{1}{4}"	Tropical " " ...	1.25"
Winter Line below " " ...	3\frac{1}{4}"	Winter " " ...	2.0"
Winter North Atlantic Line " " ...	5\frac{1}{4}"	Winter North Atlantic " " ...	2.2"

Empire Grosvenor.

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.



SKETCH OF SHEER.

$$\begin{array}{rcl} \text{Pop equiv: -} & 13 \times \frac{2.87}{32} & = 1.34 \\ & 8.5 \times \frac{2.87}{32} & = .76 \\ & & .50 \\ & \hline & 58.39 \\ & \hline & 60.99 \end{array}$$

Freeboard Request Form attached

Plans of approved Midship Section and Profile & Decks are in the London Office in Connection With the F. & B. Report for the Empire Fitzroy. Plan of General Arrangement forwarded herewith (Gls Rpt 90041)

Trade of ship International

Names of sister ships "Empire Fitzroy" (A. & J. Inglis No. 1301 P.) Gls. Rpt. No. 69992.

Builder's name and yard number A. & J. Inglis, Ltd. (No. 1302 P.)

Owners Ministry of War Transport (Anglo Saxon Petroleum Co)

Fee £ 8 . 0 . 0



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