

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER~~)

GRK. REPORT N° 23335.

Ship's Name THE EMPEROR	Official Number 169482	Nationality and Port of Registry BRITISH <i>Glasgow</i>	Gross Tonnage 1058 1060	Date of Build 1946	Port of Survey GREENOCK
Moulded Dimensions: Length 202'0" Breadth 32'58" Depth 15'11" AT BREAK BMD OF R.Q.D.					Date of Survey WHILST BUILDING
Moulded displacement at moulded draught = 85 per cent. of moulded depth (13'35") = 1852 tons					Surveyor's Signature <i>W. Macmillan</i>
Coefficient of fineness for use with Tables 738					Particulars of Classification 100 A.1 (CLASS CONTEMPLATED)

Depth for Freeboard (D). Moulded depth ... 15'71" Stringer plate ... 48" Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 15'75"	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(15'75" - 13'47") 1.553 = + 3'54"$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ If restricted by superstructures	Round of Beam correction. Moulded Breadth (B) = 32'58" Standard Round of Beam = $\frac{B \times 12}{50} = 7'82"$ Ship's Round of Beam = 7'8" Difference = 0'05" Restricted to Correction = $\frac{\text{Diff}^a}{4} \times (1 - \frac{S_1}{L}) = \frac{0'05}{4} \times 179 = \text{Nil}$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	38.75	38.75	7.00'	-	38.75
.. overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	94.00	94.00	4.58'	-	94.00
.. overhang ...	-	-	-	-	-
Bridge enclosed... EQUIV. ...	13.33	13.33	6.92'	-	13.33
.. overhang aft ...	-	-	-	-	-
.. overhang forward	-	-	-	-	-
F'cle enclosed... OPEN ...	23.25	19.76	7.00'	-	19.76
.. overhang ...	-	-	-	-	-
Trunk aft ...	-	-	-	-	-
.. forward ...	-	-	-	-	-
Tonnage opening aft ...	-	-	-	-	-
.. forward	-	-	-	-	-
Total ...	169.33	165.84	-	-	165.84

Standard Height of Superstructure **6'00"**
 " " R.Q.D. **3'68"**
 Deduction for complete superstructure **26'20"**
 Percentage covered $\frac{S}{L} = 83.82$
 " " $\frac{S_1}{L} = 82.10$
 " " $\frac{E}{L} = 82.10$
 Percentage from Table, Line A. **77.90**
 (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 = $26.20 \times 77.90 = -20.41$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	30.20	1		30.20	28.54	28.54	1		28.54
$\frac{1}{2}$ L from A.P. ...	13.44	4		53.76	12.70	12.70	4		50.80
$\frac{2}{3}$ L " ...	3.32	2		6.64	3.14	3.14	2		6.28
Amidships ...	-	4		-	-	-	4		-
$\frac{2}{3}$ L from F.P. ...	6.64	2		13.28	0.87	0.87	2		1.74
$\frac{1}{2}$ L " ...	26.88	4		107.52	25.25	25.25	4		101.00
F.P. ...	60.40	1		60.40	67.00	67.00	1		67.00
Total ...				271.80					255.36

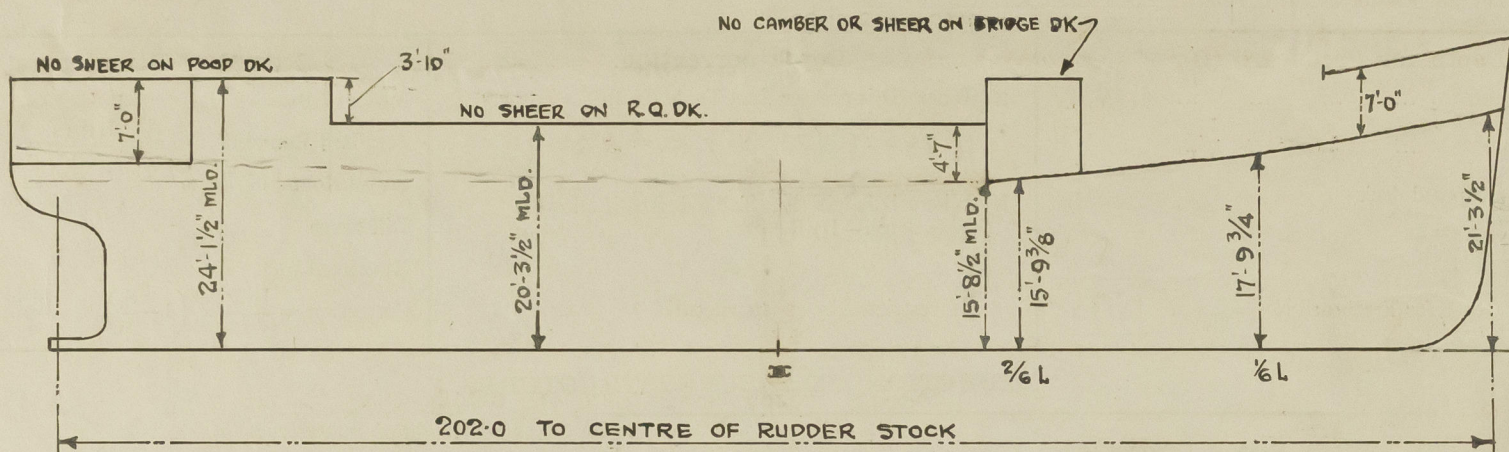
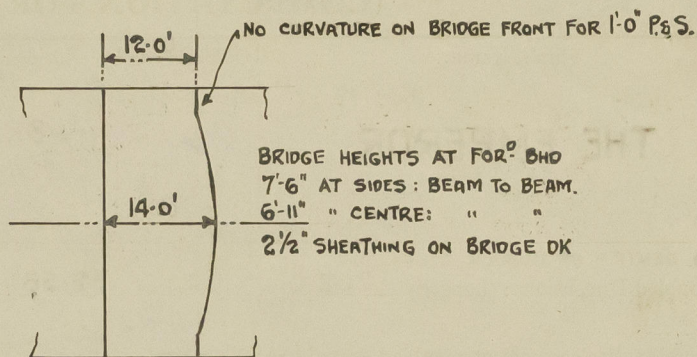
Mean actual sheer aft = **21**
 Mean standard sheer aft
 Mean actual sheer forward = **21**
 Mean standard sheer forward
 Length of enclosed superstructure forward of amidships = **Deficient**
 " aft of " = **Shore**
 Forward sheer " aft of " = **Shore**
 $\frac{6.64}{26.88} \times \frac{19.92}{80.64} \times \frac{0.87}{25.25} \times \frac{2.61}{75.75} = \frac{145.36}{160.96} = .903$
 Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{16.44}{18} \left(\frac{75-41.11}{2 \times 160} \right) = \frac{16.44}{18} \times \frac{33.89}{320} = .3309$
 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. Depth to Freeboard Deck = 20'33" Summer freeboard = 5'23" Moulded draught (d) = 15'10" Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 378 = 33'4" Addition for Winter North Atlantic Freeboard (if required) = 53'4"	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 2144 Tons per inch immersion at summer load water line $T =$ 13.20 Deduction = $\frac{\Delta}{40T}$ inches = 4'06" = 4"	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{738+68}{1.36} = 1.418/1.36$ <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td>3'54"</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures</td> <td>-</td> <td>20'41"</td> </tr> <tr> <td>Sheer correction</td> <td>30"</td> <td>-</td> </tr> <tr> <td>Round of Beam correction</td> <td>55'00"</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>-</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>-</td> <td>-</td> </tr> <tr> <td>Summer Freeboard</td> <td>62'87"</td> <td>+38'43"</td> </tr> </table>		+	-	Depth Correction	3'54"	-	Deduction for superstructures	-	20'41"	Sheer correction	30"	-	Round of Beam correction	55'00"	-	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	-	Summer Freeboard	62'87"	+38'43"
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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	7'34"	Tropical Fresh Water Freeboard	5'1-23/4"
Fresh Water Line	4'4"	Fresh Water	4'-7 1/4"
Tropical Line	3'34"	Tropical	4'-10 3/4"
Winter Line below	3'34"	Winter	4'-11"
Winter North Atlantic Line	5'34"	Winter North Atlantic	5'-6 1/2"
			5'-8 1/2"

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.



MOULDED DEPTHS GIVEN ABOVE ARE FROM TOP OF KEEL, 3/8" BELOW BUILDERS' BASE LINE

EXTREME DISPLACEMENT AT 15'-0" EXTREME DRAUGHT = 2116 TONS S.W.

T.P.1" AT 15'-0" EXTREME DRAUGHT = 13.17

KEEL ALLOWANCE = 7/8"

Allowable shear aft.

20'-3 1/2" ✓

15'-8 1/2" ✓

4'-7" = 56.2 ✓

3.68' = 44.16

10.84

Difference.

28.54" = 2.38' ✓

15.71 ✓

18.09 ✓

24.12 ✓

6.03

which is greater than stand and height of poop

Freeboard

23.25

20.20 x .903 = 18.24 ✓

3.05 x .5 = 1.52 ✓

19.76 allowed.

Trade of ship

Names of sister ships THE MONARCH

Builder's name and yard number GEO. BROWN & CO (MARINE) LD. GREENOCK. YARD No 235

Owners (UPON COMPLETION OF VESSEL) J. HAY & SONS. LD.

Fee £ WILL BE CHARGED LATER.