

Preliminary

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index. No. **38571**
(For London Office only).

Ship's Name EMPIRE KINGSWAY	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey
Moulded Dimensions: Length 202 Breadth 32.58 Depth 15.71 <i>To centre of main beam</i>					Date of Survey 4-6-46
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1852 tons					Surveyor's Signature
Coefficient of fineness for use with Tables .738					Particulars of Classification

Depth for Freeboard (D). Moulded depth 15.71 Stringer plate 3/803 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 15.74	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(15.74 - 13.47) \times 1.553 = + 3.53$ 2.27 (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 = 7.87 Difference = .05 Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.05^2}{4} \times .179$ <i>Negligible</i>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Pop enclosed	38.75	38.75	<i>equal to</i>	-	38.75
.. overhang			<i>than</i>	-	
R.Q.D. enclosed	94.00	94.00	<i>standard</i>	-	94.00
.. overhang				-	
Bridge enclosed... <i>equal to</i>	13.33	13.33	7.5	-	13.33
.. overhang aft				-	
.. overhang forward				-	
F'cle enclosed... <i>equal to</i>	23.25	19.76	7.0	-	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**

" " $\frac{E}{L} =$

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 × .779 = - 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
1/2 L from A.P.	13.44	4		53.76	12.70	12.70	4		50.80
3/4 L "	3.32	2		6.64	3.14	3.14	2		6.28
Amidships	-	4		-	-	-	4		-
3/4 L from F.P.	6.64	2		13.28	.87	.87	2		1.74
1/2 L "	26.88	4		107.52	25.24	25.24	4		100.96
F.P.	60.40	1		60.40	66.99	66.99	1		66.99
Total				271.80					255.31

Mean actual sheer aft =
Mean standard sheer aft = *Deficient*

Mean actual sheer forward =
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = *Deficient*
L

" " aft of " = *Deficient*

Forward Sheer

6.63	3	19.92	1	2.61	145.32	= .903
26.88	3	80.64	3	75.72	160.96	
60.40	1	60.40	1	66.99	145.32	
					160.96	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{16.49}{18} \left(.75 - \frac{.4191}{1.3309} \right) = +.30$

If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

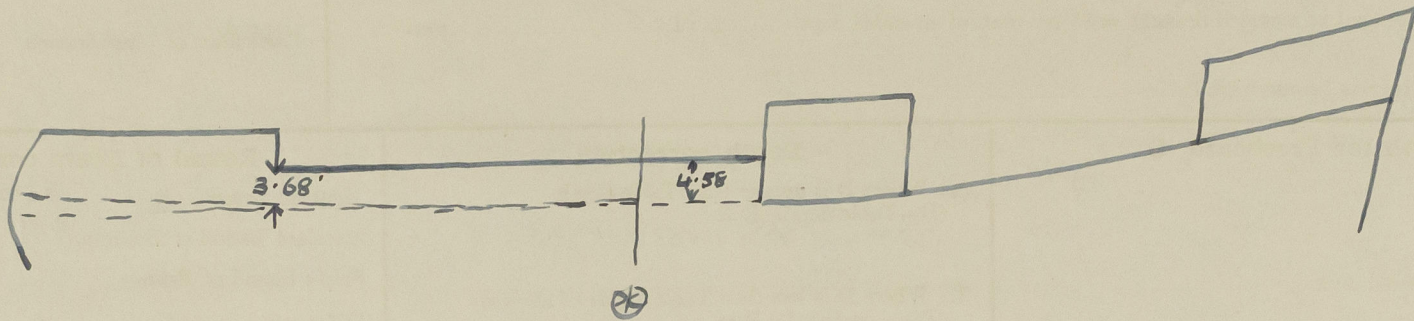
Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to <i>R.Q.</i> Deck = 20.32 Ft. Summer freeboard = 5.25 Moulded draught (d) = 15.07 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.77 = 3 3/4 Addition for Winter North Atlantic Freeboard (if required) = 5 3/4	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line $T =$ Deduction = $\frac{\Delta}{40T}$ inches =	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.738 + .68}{1.36} = \frac{1.418}{1.36}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td>3.53</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... <i>higher R.Q.D.</i></td> <td>-</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>55.00</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td>58.83</td> <td>20.41</td> </tr> </table> <p>Summer Freeboard = 62.86</p>		+	-	Depth Correction	3.53	-	Deduction for superstructures	-	20.41	Sheer correction30	-	Round of Beam correction... <i>higher R.Q.D.</i>	-	-	Correction for Thickness of Deck amidships	55.00	-	Other corrections, scantlings, etc.	-	-		58.83	20.41
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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 1/2	Tropical Fresh Water Freeboard	5 1/2
Fresh Water Line " "	3 3/4	Fresh Water " "	4 7 1/2
Tropical Line " "	3 3/4	Tropical " "	4 11 1/4
Winter Line below " "	3 3/4	Winter " "	5 6 3/4
Winter North Atlantic Line " "	5 3/4	Winter North Atlantic " "	5 8 3/4

Empire Slingsway.

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.



$$\begin{array}{rcl} 4'-7'' & = & 55.00'' \\ 3.68' & = & 44.16'' \\ \hline 8ft. & & 10.84'' \end{array}$$

$$\begin{array}{r} 20'-3\frac{1}{2}'' \\ 4'-7'' \\ \hline 15'-8\frac{1}{2}'' \\ = \text{assumed} \\ \text{molded depth} \end{array}$$

$$10.84 \times \left(\frac{101}{62.25} \right)^2 = 28.54''$$

$$\begin{array}{r} 28.54 = 2.38 \\ 15.71 \\ \hline 18.09 \end{array}$$

$$\begin{array}{r} 24.11 \\ 18.09 \\ \hline 6.02 \\ \text{which is greater} \\ \text{than standard} \\ \text{height of port.} \end{array}$$

Foreside.

$$\begin{array}{r} 23.25 \\ 20.020 \times .903 = 18.24 \\ \hline 3.23 \\ 3.05 \times .5 = \frac{1.52}{19.76} \\ \text{allow} \end{array}$$

Trade of ship.....

Names of sister ships.....

Builder's name and yard number.....

Owners.....

Fee £.....



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Foundation