

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name IMPRESS OF SCOTLAND	Official Number 161430	Nationality and Port of Registry British London	Gross Tonnage 26032	Date of Build 1930 -6	Port of Survey
Moulded Dimensions: Length 640 Breadth 83.5 Depth 48.5					Date of Survey 25-1-44
Moulded displacement at moulded draught = 85 per cent. of moulded depth 44450 tons					Surveyor's Signature
Coefficient of fineness for use with Tables .706					Particulars of Classification +100% with 1/4

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth ...	48.50	(a) Where D is greater than Table depth (D - Table depth) R = (48.55 - 42.67) x 3 = +17.64		Moulded Breadth (B) 83.50	
Stringer plate04	5.88		Standard Round of Beam = $\frac{B \times 12}{50} =$ 20.04	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .15 \times .0966 =$.01	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam = 6.00	
Depth for Freeboard (D) =	48.55	If restricted by superstructures		Difference 14.04	
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{14.04}{4} \times \frac{1006}{1000} =$ +3.36	

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 ...	567.75	567.75	8.25	-	567.75
.. overhang ...	10.50	7.87	58.0	-	7.87
Trunk aft ...					
.. forward ...					
Tonnage opening aft ...					
.. forward					
Total ...	578.25	578.62			575.62

Standard Height of Superstructure **7.5**

.. R.Q.D. **-**

Deduction for complete superstructure **42**

Percentage covered $\frac{S}{L} =$ **90.34**

.. $\frac{S_1}{L} =$ **89.94**

.. $\frac{E}{L} =$ **89.94**

Percentage from Table, Line A. **87.62**

(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 = **42 x 87.62 = -36.80**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	74.00	1	74.00	50.50	50.50	1	50.50		
1/4 L from A.P. ...	32.93	4	131.72	22.12	22.12	4	88.48		
1/2 L ..	8.14	2	16.28	5.50	5.50	2	11.00		
Amidships ...	-	4	-	-	-	4	-		
3/4 L from F.P. ...	16.28	2	32.56	15.24	15.24	2	30.40		
1/4 L ..	65.86	4	263.44	61.00	61.00	4	244.00		
F.P. ...	148.00	1	148.00	135.00	135.00	1	135.00		
Total ...			660.00				559.38		

Mean actual sheer aft =
Mean standard sheer aft = } **deficient**

Mean actual sheer forward =
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = **1**

.. aft of .. = **37.1**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{106.62}{18} \left(.75 - \frac{45.17}{100} \right) =$ **+1.77**

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. Ft. Depth to Freeboard Deck = 48.69 Summer freeboard = 17.19 Moulded draught (d) = 31.50 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = Addition for Winter North Atlantic Freeboard (if required) =	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 = 7 3/4	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.706 + .68}{1.36} = \frac{1.386}{1.36}$ <table border="1"> <thead> <tr> <th></th> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction ...</td> <td>17.64</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures ...</td> <td>-</td> <td>36.80</td> </tr> <tr> <td>Sheer correction ...</td> <td>1.77</td> <td>-</td> </tr> <tr> <td>Round of Beam correction ...</td> <td>.36</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td>1.63</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc. (from Table) ...</td> <td>79.89</td> <td>-</td> </tr> <tr> <td>Summer Freeboard =</td> <td>206.25</td> <td>-</td> </tr> </tbody> </table>		+	-	Depth Correction ...	17.64	-	Deduction for superstructures ...	-	36.80	Sheer correction ...	1.77	-	Round of Beam correction36	-	Correction for Thickness of Deck amidships ...	1.63	-	Other corrections, scantlings, etc. (from Table) ...	79.89	-	Summer Freeboard =	206.25	-
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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 3/4	Tropical Fresh Water Freeboard ...	17'-2 1/4"
Fresh Water Line ..	7 3/4	Fresh Water ..	16'-6 1/2"
Tropical Line ..	N.A.	Tropical ..	16'-6 1/2"
Winter Line below ..	N.A.	Winter ..	17'-2 1/4"
Winter North Atlantic Line ..	N.A.	Winter North Atlantic ..	17'-2 1/4"

