

JUL -2 1937

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER) SAILING SHIP, TANKER.

Ship's Name S.S. "DONAGHADEE."	Official Number 165161	Nationality and Port of Registry British. Belfast	Gross Tonnage 662.35	Date of Build 1937.	Port of Survey Glasgow
a & J. Inglis & Co. Ltd. Yard No 998.P					Date of Survey While building
Moulded Dimensions: Length 175' 0" Breadth 27' 9" Depth 13' 4 3/4" <i>to C.L. of midship section</i>					Surveyor's Signature <i>W. J. M. Aitken</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1134. tons					Particulars of Classification +100 A.I.
Coefficient of fineness for use with Tables .714					Class contemplated.

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth 13.39.	(a) Where D is greater than Table depth (D - Table depth) R = $(13.42 - 11.73) \times 1.354 = +2.29$ 1.69	Moulded Breadth (B) 27.75
Stringer plate 103.	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ 6.66
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 7.
Depth for Freeboard (D) = 13.42		Difference .34
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ $\frac{.34}{4} \times 2009 = -0.02$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	✓				
" overhang	106.00				
R.Q.D. enclosed	105.0	106.00	4'-0"	-	106.00
" overhang	10.39				
Bridge enclosed	10.39	10.39	7'-6"	-	10.39
" overhang aft	12				
" overhang forward	✓				
Fore enclosed	22.26	22.26	6'-9"	-	22.26
" overhang	1.87	1.87			
Trunk aft	✓				
" forward	✓				
Tonnage opening aft	✓				
" " forward	✓				
Total	142.64	140.64			140.64

Standard Height of Superstructure	6.0
" " R.Q.D.	3.507
Deduction for complete superstructure	23.6
Percentage covered $\frac{S}{L} =$	81.06
" " $\frac{S_1}{L} =$	79.91
" " $\frac{E}{L} =$	79.91
Percentage from Table, Line A.	75.18
(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 =	23.6 x .7518 = -17.74

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	27.60	1		27.60	36.75	42.67	1		42.67
1/4 L from A.P.	12.28	4		49.12	16.00	18.78	4		75.92
1/2 L "	3.035	2		6.07	5.00	4.69	2		9.38
Amidships		4		-	-	-	4		-
3/4 L from F.P.	6.07	2		12.14	7.00	7.00	2		14.00
1/4 L "	24.56	4		98.24	32.50	32.50	4		130.00
F.P.	73.50	1		55.20	73.50	73.50	1		73.50
Total				248.37					345.47

Mean actual sheer aft = *Excess*
 Mean standard sheer aft = *Excess*

Mean actual sheer forward = *Excess*
 Mean standard sheer forward = *Excess*

Length of enclosed superstructure forward of amidships = **> .1L**

" " aft of " = **> .1L**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{97.10}{18} \left(\frac{.75 - .4053}{34.47} \right) = -1.86$
 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 Freeboard Deck = 17.42 Summer freeboard = 4.19 Moulded draught (d) = 13.23 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.31 = 3 1/4 Addition for Winter North Atlantic Freeboard (if required) = 5 1/4	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 1407 Tons per inch immersion at summer load water line $T =$ 9.87 Deduction = $\frac{\Delta}{40T}$ inches = 3.56 = 3 1/2	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{714 + .68}{1.36} = \frac{1.394}{1.36} =$ <table border="1"> <tr> <th></th><th>+</th><th>-</th></tr> <tr> <td>Depth Correction</td><td>2.29</td><td></td></tr> <tr> <td>Deduction for superstructures</td><td></td><td>17.74</td></tr> <tr> <td>Sheer correction</td><td></td><td>1.86</td></tr> <tr> <td>Round of Beam correction</td><td></td><td>.02</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></td><td>48.00</td><td></td></tr> <tr> <td></td><td>50.29</td><td>19.62</td></tr> <tr> <td>Summer Freeboard =</td><td>50.35</td><td></td></tr> </table>		+	-	Depth Correction	2.29		Deduction for superstructures		17.74	Sheer correction		1.86	Round of Beam correction02	Correction for Thickness of Deck amidships			Other corrections, scantlings, etc.				48.00			50.29	19.62	Summer Freeboard =	50.35	
	+	-																														
Depth Correction	2.29																															
Deduction for superstructures		17.74																														
Sheer correction		1.86																														
Round of Beam correction02																														
Correction for Thickness of Deck amidships																																
Other corrections, scantlings, etc.																																
	48.00																															
	50.29	19.62																														
Summer Freeboard =	50.35																															

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

Tropical Fresh Water Line above Centre of Disc	3 3/4
Fresh Water Line " "	3 1/2
Tropical Line " "	0 1/4
Winter Line below " "	3 1/4
Winter North Atlantic Line " "	5 1/4

Tropical Fresh Water Freeboard	4'-2 1/4"
Fresh Water " "	3'-10 1/2"
Tropical " "	3'-10 3/4"
Winter " "	4'-2" (limited)
Winter North Atlantic " "	4'-5 1/2"
	4'-7 1/2"

-6 JUL 1937

RECEIVED
 31 AUG 1937
 MARKING FORM
 RECEIVED

Donaghadee.

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.

$$\begin{array}{r} \text{Bridge} \quad 9.17 \\ \frac{2}{3} \times 1.83 = 1.22 \\ \hline 10.39 \end{array}$$

$$\begin{array}{r} \text{File} \quad 24.17 \\ - \frac{12 \times 3.67}{23} = 1.91 \\ \hline 22.26 \\ \text{overhang} \quad 26.00 \\ - 22.26 \\ \hline 3.74 \end{array}$$

Trade of ship International. Timber freeboard not required.
Names of sister ships S.S. "CROSSGAR" Same builder N° 988P. Glasgow report N° 57669.
Builder's name and yard number A & J. Inglis Ld. Lighthouse, Glasgow.
Owners John Kelly Ld., (W. Clini Mgr.) Belfast.
Fee £ 8 : 0 : 0.



© 2020

Lloyd's Register
Foundation