

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index No. 35282
(For London Office only).

No 32076

Ship's Name Messrs W. Doxford & Sons Ltd No: 640.	Official Number	Nationality and Port of Registry British	Gross Tonnage	Date of Build	Port of Survey Sunderland
Moulded Dimensions: Length 422.21 , Breadth 57.46 , Depth 29.08					Date of Survey ✓
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12,887 tons					Surveyor's Signature Colin Bartlett
Coefficient of fineness for use with Tables .752					Particulars of Classification +100A1 "with freeboard" (Contemplated)

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth 29.08	(a) Where D is greater than Table depth (D - Table depth) R = (29.12 - 28.14)3 = +2.94"	Moulded Breadth (B) 57.46
Stringer plate04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ 13.79
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = Rule.
Depth for Freeboard (D) = 29.12		Difference
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ Nil.

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	35.46	35.46			35.46	Standard Height of Superstructure 7.5'
" overhang	1.50	.75			.75	" " R.Q.D.
R.Q.D. enclosed	✓					Deduction for complete superstructure 42.00'
" overhang	✓					Percentage covered $\frac{S}{L} =$ 100
Bridge enclosed	378.88	378.88	8' 6"		378.88	" " $\frac{S_1}{L} =$ 99.30
" overhang aft	1.50	1.12			1.12	" " $\frac{E}{L} =$ 99.30
" overhang forward	✓		See back			Percentage from Table, Line A. 99.14
Fore enclosed	✓					(corrected for absence of forecastle (if required))
" overhang	✓					Percentage from Table, Line B.
Trunk aft	✓					(corrected for absence of forecastle (if required))
" forward	✓					Interpolation for bridge less than 2L (if required)
Tonnage opening aft	4.87	3.00 = 1/2 diff.			3.00	Deduction = 42 × .9914 = - 41.64
" " forward	✓					
Total	422.21	419.21			419.21	

SHEER CORRECTION.

Actual Superstructure Height **8' 6"**
Standard " **7' 6"**
Diff. = **1' 0" excess**

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	52.22	1	✓	52.22	57.75	69.75	1	✓	69.75
1/4 L from A.P.	23.24	4	✓	92.96	25.875	31.04	4	✓	124.16
1/2 L "	5.75	2	✓	11.50	6.50	7.67	2	✓	15.34
Amidships	-	4	✓	-	-	-	4	✓	-
3/4 L from F.P.	16.49	2	✓	22.98	12.375	13.86	2	✓	27.72
1/4 L "	46.47	4	✓	185.88	50.625	56.07	4	✓	224.28
F.P.	104.44	1	✓	104.44	114.00	126.00	1	✓	126.00
Total				469.98					587.25

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{117.27}{18} \times .25 = \mathbf{1.63"}$

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 = **29.12**
Summer freeboard = **3.52**
Moulded draught (d) = **25.60**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **6.4 = 6 1/2**
Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta =$ **13,500**
Tons per inch immersion at summer load water line
 $T =$ **49.80**
Deduction = $\frac{\Delta}{40T}$ inches
 $=$ **6.78 = 6 3/4**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.752 + .68}{1.36} = \frac{1.432}{1.36}$

	+	-
Depth Correction	2.94	-
Deduction for superstructures	-	41.64
Sheer correction	-	1.63
Round of Beam correction	-	-
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	2.94	43.27
Summer Freeboard =	42.31	-40.33

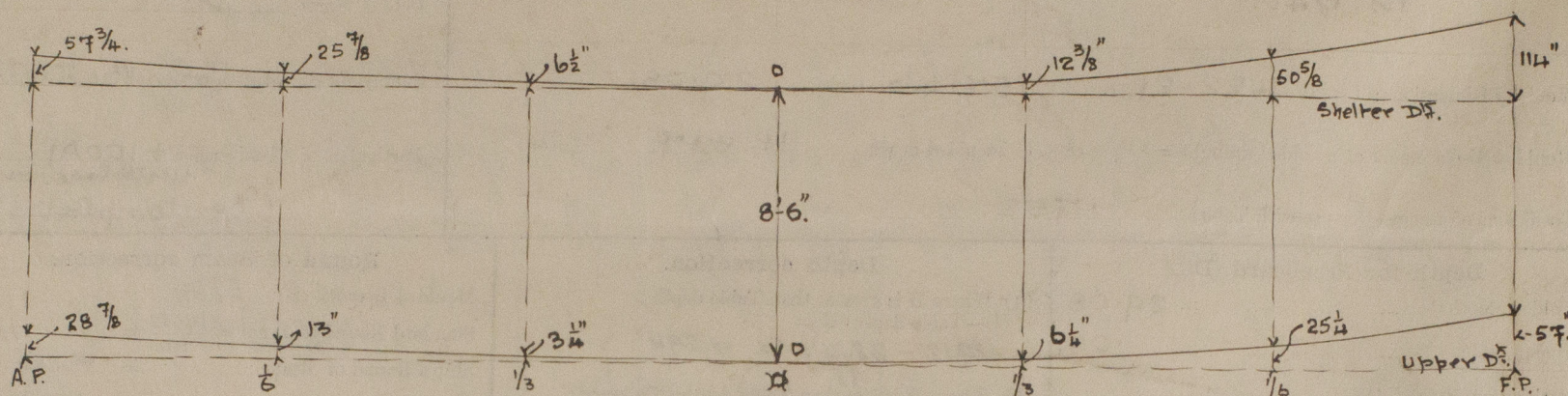
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc	13 1/4"
Fresh Water Line " "	6 3/4"
Tropical Line " "	6 1/2"
Winter Line below " "	6 1/2"
Winter North Atlantic Line " "	✓

Tropical Fresh Water Freeboard	2' 5"
Fresh Water " "	2' 11 1/2"
Tropical " "	2' 11 3/4"
Winter " "	4' 0 3/4"
Winter North Atlantic " "	✓

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.

RECEIVED



SHEER DIAGRAM.

Actual displacement at Load Draught 25'-9 1/4" = 13,500 Tons.
T.P.S. " " 49.8.

Trade of ship. ✓

Names of sister ships. None

Builder's name and yard number. Messrs W. Duxford & Sons Ltd

Owners. W. J. Latern Ltd

Fee £

Will be charged on completion



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Foundation