

t. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 Index No. 24514
 (For London Office only.)

 Computation of Freeboard for Steamer, Sailing Ship, Tanker
 having Raised Quarter Deck, Bridge & Forecasts
Port of Survey Rotterdam

(Type of Superstructures.)

Date of Survey 15/9/32
 Ship's Name Mare
ex HIGHLAND
ac. Oosterland
 Nationality and Port of Registry British Estonian
London
 Official Number 142351
 Gross Tonnage 1209.46
1192
 Date of Build 1916-2

Name of Surveyor

 Moulded Dimensions: Length 230 Breadth 34-4 Depth 17-1
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 2409 tons
 Coefficient of fineness for use with Tables .735
Particulars of Classification +100 A1

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth 17.08	(a) Where D is greater than Table depth (D - Table depth) R = (17.11 - 15.33) 1.769 = + 3.15	Moulded Breadth (B) 34.33 Standard Round of Beam = $\frac{B \times 12}{50}$ = 8.24 Ship's Round of Beam = 8.50 Difference .26
Stringer plate 03	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Restricted to Correction = $\frac{\text{Diff}^e}{4} \times (1 - \frac{S_1}{L})$ = $\frac{.26}{4} (1 - .6942)$ = .02
Heating on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	
Depth for Freeboard (D) = 17.11		

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	82.95	82.95	4	✓	82.95
" overhang					
Bridge enclosed	51.69	51.69	7.3	✓	51.69
" overhang aft					
" overhang forward					
Deck enclosed	24.39	24.39	7.0	✓	24.39
" overhang	1.27	.63			.63
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	160.30	159.66			159.66

 Standard Height of Superstructure 6'
 " " R.Q.D. 3.867
 Deduction for complete superstructure 29'
 Percentage covered $\frac{S}{L} = 69.70$
 " " $\frac{S_1}{L} = 69.42$
 " " $\frac{E}{L} = 69.42$
 Percentage from Table, Line A. 62.01
 (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 = 29' x .6201 = -17.98

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	33.00	1		33.00	36.00	37.60	1		37.60
$\frac{1}{4}$ L from A.P.	14.68	4		58.72	15.01	16.61	4		66.44
$\frac{3}{8}$ L "	3.93	2		7.26	3.75	4.14	2		8.28
Amidships		4					4		
$\frac{3}{8}$ L from F.P.	7.26	2		14.52	8.59	8.59	2		17.18
$\frac{1}{4}$ L "	29.37	4		117.48	34.37	34.37	4		137.48
F.P.	66.00	1		66.00	78.00	78.00	1		78.00
Total				296.98					344.98

 Mean actual sheer aft = Excess
 Mean standard sheer aft

 Mean actual sheer forward = Excess
 Mean standard sheer forward

 Length of enclosed superstructure forward of amidships = .085
 " " aft of " = .50

 Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{48.00}{18} \left(\frac{75-34.85}{2} \right) = -1.07$
If limited on account of midship superstructure. $1.07 \times \frac{185}{2} = -99$ 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 = 17.11
 Summer freeboard = 1.14
 Moulded draught (d) = 15.97

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 3.99 - 4"Addition for Winter North Atlantic Freeboard (if required) = +2 = 6"

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 2693$

Tons per inch immersion at summer load water line

T = 15.3Deduction = $\frac{\Delta}{40T}$ inches= 4.40= 4 1/2

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.735 + .680}{1.36} = \frac{1.415}{1.36}$

	+	-
Depth Correction	3.15	-
Deduction for superstructures	-	17.98
Sheer correction	-	.99
Round of Beam correction	-	.02
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	3.15	18.99

Summer Freeboard = 13.81

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

 Tropical Fresh Water Line above Centre of Disc ... 216 ... 8 1/2
 Fresh Water Line " " ... 114 ... 4 1/2
 Tropical Line " " ... 102 ... 4
 Winter Line below " " ... 102 ... 4
 Winter North Atlantic Line " " ... 152 ... 6

 Tropical Fresh Water Freeboard ... 13.3 ... 0-5 1/4
 Fresh Water " " ... 23.5 ... 0-9 1/4
 Tropical " " ... 21.7 ... 0-9 3/4
 Winter " " ... 40.3 ... 1-5 3/4
 Winter North Atlantic " " ... 50.2 ... 1-7 3/4