

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Forecastle & Bridge

Port of Survey

Belfast

(Type of Superstructures.)

B.T.L. 1938

Date of Survey

While Building

Name of Surveyor

G.R. Edgar

Particulars of Classification

+100 A1

With freeboard.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
HIGHLAND PATRIOT	British Belfast	161883	14172 14156.59	1932
Moulded Dimensions: Length 520.00 Breadth 69.00 Depth 43.75				
Moulded displacement at moulded draught = 85 per cent. of moulded depth 29175 tons				
Coefficient of fineness for use with Tables 765.				

Depth for Freeboard (D)	
Moulded depth	43.75
Stringer plate	.04
Sheathing on exposed deck	
$T \left(\frac{L-S}{L} \right) = .12 \times .6197$	.07
Depth for Freeboard (D) =	43.86

Depth correction	
(a) Where D is greater than Table depth (D-Table depth) R =	(43.86-34.66) 3 = +27.60
(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	✓
If restricted by superstructures	✓

Round of Beam correction	
Moulded Breadth (B)	69.00
Standard Round of Beam = $\frac{B \times 12}{50}$	= 16.56
Ship's Round of Beam	= 6.00
Difference	10.5600
Restricted to	
Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L})$	= $\frac{10.56}{4} \times .7128 = +1.88$

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	96.75	48.37	8'-9"		48.37
" overhang aft	✓				
" overhang forward	✓				
Fore enclosed	101.00	100.95	8'-3"		100.95
" overhang	✓				
Trunk aft	✓				
" forward	✓				
Tonnage opening aft	✓				
" forward	✓				
Total	197.75	149.32			149.32

Standard Height of Superstructure	7'-6"
" " R.Q.D.	✓
Deduction for complete superstructure	42.00"
Percentage covered $\frac{S}{L} =$	38.03%
" " $\frac{S_1}{L} =$	28.72%
" " $\frac{E}{L} =$	28.72%
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	14.36%
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	18.19%
Interpolation for bridge less than 2L (if required)	$14.36 + (3.63 \times \frac{29.3}{20}) = 16.14$
✓ Deduction =	$42.00 \times .1614 = -6.78"$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	62.00	1		62.00	45.00	45.00	1		45.00
$\frac{1}{4}$ L from A.P.	27.59	4		110.36	18.00	18.00	4		72.00
$\frac{3}{4}$ L	6.82	2		13.64	5.00	5.00	2		10.00
Amidships	✓	4		✓	✓	✓	4		✓
$\frac{3}{4}$ L from F.P.	13.64	2		27.28	11.50	11.50	2		23.00
$\frac{1}{4}$ L	55.18	4		220.72	45.00	45.00	4		180.00
F.P.	124.00	1		124.00	110.00	110.00	1		110.00
Total				553.00					440.00

Mean actual sheer aft = Deficient
Mean standard sheer aft =Mean actual sheer forward = Deficient
Mean standard sheer forward = 84.58%

Length of enclosed superstructure forward of amidships =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{118}{18} (.75 - .19) = +3.64"$

If limited on account of midship superstructure.

If limited to maximum allowance of 15 ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck	=	44.00
Summer freeboard	=	15.40
Moulded draught (d)	=	28.60

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 7.15 = 7 1/4"

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 21733$

Tons per inch immersion at summer load water line

T = 73.2

Deduction = $\frac{\Delta}{40T}$ inches

= 7.42 = 7 1/2"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	27.60	✓
Deduction for superstructures	- 6.78	✓
Sheer correction	3.64	✓
Round of Beam correction	1.88	✓
Correction for Thickness of Deck amidships	1.66	✓
Other corrections, scantlings, etc. and to correspond to approved moulder with draught of 28'-0"	41.86	✓
	76.67	6.78
Summer Freeboard =	184.75	

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

Tropical Fresh Water Line above Centre of Disc	14 3/4"	Tropical Fresh Water Freeboard	15'-4 3/4"
Fresh Water Line	7 1/2"	Fresh Water	14'-2 1/2"
Tropical Line	7 1/2"	Tropical	14'-9 1/2"
Winter Line below	7 1/2"	Winter	16'-0"
Winter North Atlantic Line	✓	Winter North Atlantic	✓

20 MAY 1932

A passenger line marked

7 1/4" below centre of disc

RECEIVED
15 AUG 1936

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	...	...	...				
Dimensions of Hatchway	...	...	...				
COAMINGS	{	Height above Deck	...							
		Thickness { Sides	...							
		{ Ends	...							
		Stiffeners ...	...						
		Brackets, Stays	...							
HATCH BEAMS	{	Number ...	...						
		Spacing ...	...						
		Scantling and Sketch	...							
		Bearing Surface	...							
FORE AND AFTERS	{	Number ...	...						
		Spacing ...	...						
		Unsupported Lengths	...							
		Scantling* and Sketch	...							
		Bearing Surface	...							
HATCH COVERS	{	Material ...	...						
		Thickness ...	...						
		How fitted	...							
		Bearing Surface	...							
Spacing of Cleats	...	...	...				
Number of Tarpaulins	...	...	...				
*Are wood fore and afters steel shod at all bearing surfaces? Are battens and wedges efficient and in good condition? Are tarpaulins in good condition and in accordance with rule requirements? Are lashings provided in accordance with rule requirements?										

Particulars of fiddle, funnel and ventilator coamings :—

Forecastle	101. 00.
Recess $\frac{1.0 \times 3.08}{32.00}$	$\frac{10.}{100.90.}$
	$\frac{08' 0' \text{hang}}{100.95.}$

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

Particulars of Gangway Cargo and Coaling Ports :—

