

Preliminary Assignment
Particulars supplied by Builders.
Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

11 DEC 1933
Index. No. **34410**
(For London Office only.)

GLASGOW REPORT No. **54054**

Computation of Freeboard for Steamer, Sailing Ship, Tanker
Poop Bridge & Forecastle.

(Type of Superstructures.)

Ship's Name 140.931 M Henderson & Co. Ltd.	Nationality and Port of Registry Brit.	Official Number	Gross Tonnage 5450	Date of Build 1934
--	--	-----------------	------------------------------	------------------------------

Moulded Dimensions: Length **412'** Breadth **56'** Depth **30'-7"**
Moulded displacement at moulded draught = 85 per cent. of moulded depth **13010** tons
Coefficient of fineness for use with Tables **.7591**

Port of Survey **Glasgow**
Date of Survey **9th Dec. 1933**
Name of Surveyor **A. J. Watson**
Particulars of Classification **+100 RI**
contemplated

Depth for Freeboard (D)	Depth correction	Round of Beam correction
depth ... 30.58	(a) Where D is greater than Table depth (D - Table depth) R = .45	Moulded Breadth (B) 56'
plate ... .04	(30.62 - 27.47) 3 = 9.42	Standard Round of Beam = $\frac{B \times 12}{50}$ = 13.44
g on exposed deck $\frac{L-S}{L}$ = no sheathing	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 3.15	Ship's Round of Beam = 13.50
Depth for Freeboard (D) = 30.6162	If restricted by superstructures ✓	Difference .06
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times (1 - \frac{S_1}{L})$ = .06 x .46/32 4 = .0069

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
enclosed ...	46.25	46.25	11'-3"		46.25
overhang ...	✓				
D. enclosed ...	✓				
overhang ...	✓				
ge enclosed ...	133.00	133.00	11'-3"		133.00
overhang aft ...	✓				
overhang forward ...	✓				
enclosed ...	42.63	41.91	8'-0"		41.91
overhang ...	✓				
nk aft ...	✓				
forward ...	✓				
image opening aft ...	✓				
" forward ...	✓				
Total ...	221.88	221.16			221.16

Standard Height of Superstructure **7'-6"**
" " R.Q.D. **✓**
Deduction for complete superstructure **42.00**
Percentage covered $\frac{S}{L}$ = **53.85**
" " $\frac{S_1}{L}$ = **53.68**
" " $\frac{E}{L}$ = **✓**
Percentage from Table, Line A.
(corrected for absence of forecastle (if required))
Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) **39.68**
Interpolation for bridge less than 2L (if required) **✓**
Deduction = **42.00 x .3968 = -16.66**

SHEER CORRECTION.

Position	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
...	51.20	1	✓	51.20	63.00	✓	1	✓	63.00
A.P. ...	22.78	4	✓	91.12	28.04	✓	4	✓	112.16
...	5.63	2	✓	11.26	6.93	✓	2	✓	13.86
ps ...	—	4	✓	—	—	✓	4	✓	—
F.P. ...	11.26	2	✓	22.52	13.86	✓	2	✓	27.72
...	45.56	4	✓	182.24	56.07	✓	4	✓	224.28
...	102.40	1	✓	102.40	126.00	✓	1	✓	126.00
total ...	460.8	✓	✓	460.74		✓		✓	567.02

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

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{106.28}{18} \left(.75 - \frac{221.88}{824} \right) = 2.84$

Limited on account of midship superstructure. **✓**

If limited to maximum allowance of 1½ ins. per 100 ft.

Correction for Tropical Freeboard.
Correction for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **30.62** Ft.
Summer freeboard = **5.79** Ft.
Moulded draught (d) = **24.83** Ft.
Correction for Tropical freeboard and addition for
Summer freeboard = $\frac{d}{4}$ inches = **6.21** = **6¼"**
Correction for Winter North Atlantic Freeboard (if required) = **✓**

Deduction for Fresh Water.
Displacement in salt water at summer load water line
Tons per inch immersion at summer load water line **46.5**
Deduction = $\frac{\Delta}{40 T}$ inches = **6¼"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient **.759 + .68 = 1.058**
1.36

Depth Correction	...	...	...	...	9.42
Deduction for superstructures	...	...	...	...	16.66
Sheer correction	...	...	...	...	2.84
Round of Beam correction	...	...	...	...	.01
Correction for Thickness of Deck amidships	...	...	...	...	—
Other corrections, scantlings, etc.	...	...	...	...	.45

75.24
79.60
51.8
12/1/33
.06
9.42 + 19.51 = 10.09
Summer Freeboard = 69.5 x .54

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

Tropical Fresh Water Line above Centre of Disc	...	12½"	Tropical Fresh Water Freeboard	...	5'-9½"
Fresh Water Line	"	6½"	Fresh Water	"	4'-9"
Tropical Line	"	6½"	Tropical	"	5'-3½"
Winter Line below	"	6½"	Winter	"	6'-3½"
Winter North Atlantic Line	"	✓	Winter North Atlantic	"	✓

Approved midship section & profile plans forwarded for reference. Builders will be sent in due course. Timber freeboard assignment is also allowed by the Builders.