

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 Index No. 32843
 (For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker
 having *Prop, Bridge & Forecastle*

(Type of Superstructures.)

Ship's Name <i>GRACEFIELD</i>	Nationality and Port of Registry <i>Newcastle</i>	Official Number <i>149444</i>	Gross Tonnage <i>✓</i>	Date of Build <i>1928</i>
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Moulded Dimensions: Length *389.4* Breadth *53.25* Depth *24.83*
 Displacement at moulded draught = 85 per cent. of moulded depth *10938*
 Index of fineness for use with Tables *.480* tons

Port of Survey
 Date of Survey *16/11/31*
 Name of Surveyor *ES*
 Particulars of Classification *+ 100 A1*

Depth for Freeboard (D)

 Depth ... *24.83*
 ... *.04*
 exposed deck
 (S) = *-*
 Depth for Freeboard (D) = *24.84*

Depth correction

(a) Where D is greater than Table depth

(D - Table depth) R =

$$(24.84 - 25.98) 2.998 = +5.64$$

(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) *53.25*

$$\text{Standard Round of Beam} = \frac{B \times 12}{50} = 12.78$$

$$\text{Ship's Round of Beam} = 13.25$$

Difference *.47*

Restricted to

$$\text{Correction} = \frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.47}{4} \times .184 = -.02$$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
closed ...	36.25	36.25	4.3	36.25 × $\frac{4.25}{7.394}$	35.53
erhang ...					
enclosed ...					
erhang ...					
enclosed ...	249.45	249.45	8.0	✓	249.45
erhang aft ...					
erhang forward					
closed ...	32.00	32.00	4.0	32.00 × $\frac{4.00}{7.394}$	30.28
erhang ...					
ft ...					
forward ...					
e opening aft ...					
forward					
Total ...	318.00	318.00			315.56

Standard Height of Superstructure *4.394*" " R.Q.D. *✓*Deduction for complete superstructure *41.32*

$$\text{Percentage covered } \frac{S}{L} = 81.61\%$$

$$\frac{S_1}{L} = 81.61\%$$

$$\frac{E}{L} = 80.98\%$$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required)) *✓*

Percentage from Table, Line B.

(corrected for absence of forecastle (if required)) *76.52%*

Interpolation for bridge less than .2L (if required)

$$\text{Deduction} = 41.32 \times .4652 = - 31.62$$

SHEER CORRECTION.

Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
48.94	1		48.94	54.00	54.00	1		54.00
21.49	4		84.16	22.52	22.52	4		90.08
5.39	2		10.78	5.63	5.63	2		11.26
	4					4		
10.44	2		21.54	11.65	11.65	2		23.30
43.58	4		174.32	46.61	46.61	4		186.44
94.94	1		94.94	108.50	108.50	1		108.50
			440.71					473.58

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

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

Length of enclosed superstructure

L forward of amidships = *55*" " aft of " = *55*

$$\text{on} = \frac{\text{Difference between sums of products}}{18}$$

$$\left(75 - \frac{S}{2L}\right) = \frac{32.84}{18} \times (.45 - .408) = -.62$$

ed on account of midship superstructure.

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

for Tropical Freeboard.

for Winter and Winter North

Freeboard.

Depth to Freeboard Deck = *24.84*Summer freeboard = *3.89*Moulded draught (d) = *23.98*

for Tropical freeboard and addition for

Freeboard = $\frac{d}{4}$ inches = *5.99*

for Winter North Atlantic Freeboard (if

ed =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

Tons per inch immersion at summer load water line

T =

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{.480 + .68}{1.36} = \frac{1.16}{1.36}$$

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

+ -

5.64 -

- 31.62

- .62

- .02

-

-

-

5.64 32.26 - 26.54

Summer Freeboard = *46.74*

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

Tropical Fresh Water Line above Centre of Disc ...

Fresh Water Line " " ...

Tropical Line " " ...

Winter Line below " " ...

Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...

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1906 2/10

4'-1 1/4"

4'-6 3/4"

Diffs

S = - 3"

W = - 3"

W 398-0085