

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Convention computation as a cargo steamer

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
having *a poop and forecastle*

Port of Survey *Falmouth*Date of Survey *16th January 1932*Name of Surveyor *A. Sullard - J. Rundle*Particulars of Classification *+100K
carrying petroleum in bulk.***NORAVIND**

(Type of Superstructures.)

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

Moulded Dimensions: Length *449.83* Breadth *59.0* Depth *35.5*
Moulded displacement at moulded draught = 85 per cent. of moulded depth *18650* tons
Coefficient of fineness for use with Tables *815*

Depth for Freeboard (D) *35.50*
Moulded depth
Stringer plate
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = *35.57*

Depth correction
(a) Where D is greater than Table depth
(D - Table depth) R = *35.57 - 29.99 = 5.58*
 $\checkmark (5.58) \times 3 = +16.74$
(b) Where D is less than Table depth (if allowed)
(Table depth - D) R = *35.5 - 35.57 = -0.07*
If restricted by superstructures *✓*

Round of Beam correction
Moulded Breadth (B) *59.0*
Standard Round of Beam = $\frac{B \times 12}{50} = 14.16$
Ship's Round of Beam = *14.75*
Difference *.59*
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.59^2}{4} \times .7068 = -.10$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S _i)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>95.70</i>	<i>95.70</i>	<i>8.0</i>	<i>✓</i>	<i>95.70</i>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	<i>36.20</i>	<i>36.20</i>	<i>8.0</i>	<i>✓</i>	<i>36.20</i>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	<i>131.90</i>	<i>131.90</i>			<i>131.90</i>

Standard Height of Superstructure *7.5*
" " R.Q.D. *✓*
Deduction for complete superstructure *42*
Percentage covered $\frac{S}{L} = 29.32$
" " $\frac{S_1}{L} = 29.32$
" " $\frac{E}{L} = 29.32$
Percentage from Table, Line A. *14.66*
(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 = *42 × 14.66 = -6.16*

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>54.98</i>	1		<i>54.98</i>	<i>36.0</i>	<i>36.0</i>	1		<i>36.0</i>
$\frac{1}{8}L$ from A.P. ...	<i>24.465</i>	4		<i>97.86</i>	<i>4.3</i>	<i>4.3</i>	4		<i>17.2</i>
$\frac{2}{8}L$ " ...	<i>6.05</i>	2		<i>12.10</i>	-	-	2		-
Amidships ...	-	4		-	-	-	4		-
$\frac{3}{8}L$ from F.P. ...	<i>12.10</i>	2		<i>24.20</i>	-	-	2		-
$\frac{1}{8}L$ " ...	<i>48.93</i>	4		<i>195.72</i>	<i>17.1</i>	<i>17.1</i>	4		<i>68.4</i>
F.P. ...	<i>109.97</i>	1		<i>109.97</i>	<i>72.0</i>	<i>72.0</i>	1		<i>72.0</i>
Total ...				<i>444.83</i>					<i>193.6</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{301.23}{18} (.75 - .1466) = +10.10$

If limited on account of midship superstructure. *✓*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 = *35.57*
Summer freeboard = *9.69*
Moulded draught (d) = *25.88*

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = *6.47 = 6\frac{1}{2}*

Addition for Winter North Atlantic Freeboard (if required) = *✓*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 15810$

Tons per inch immersion at summer load water line

 $T = 55.8$ Deduction = $\frac{\Delta}{40T}$ inches $= 7.03$ $= 7\frac{1}{4}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{815 + .68}{1.36} = \frac{1.495}{1.36}$

Depth Correction
Deduction for superstructures
Sheer correction
Round of Beam correction
Correction for Thickness of Deck amidships
Other corrections, scantlings, etc.

Summer Freeboard = *116.26*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 " " ...

*131\frac{3}{4} = 343.349**7\frac{1}{4} = 178.184**6\frac{1}{2} = 165**6\frac{1}{2} = 165*

...

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...

*9\frac{3}{4} = 2953**8\frac{1}{2} = 2610**9\frac{1}{4} = 2775**9\frac{3}{4} = 2788**10\frac{1}{4} = 3118*