

Convention Computation As a Tanker.

Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index, No. **33389**
(For London Office only.)

33389

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *a poop and forecastle*

Port of Survey *Falmouth*

NORAVIND

(Type of Superstructures.)

Date of Survey *5th & 6th January 1932*

Ship's Name

Nationality and Port of Official Number

Gross Tonnage

Date of Build

Nordanvik

Norwegian

Name of Surveyor *A. Sallards of F. Smith & Co.*

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*

Particulars of Classification *+100AT*
Carrying petroleum in bulk

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <i>35.50</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>(35.57 - 29.99) × 3 = +16.74</i>	Moulded Breadth (B) <i>59'</i>
Stringer plate <i>.87</i> <i>.07</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 14.16$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		Ship's Round of Beam = <i>14.75</i>
Depth for Freeboard (D) = <i>35.57</i>	If restricted by superstructures	Difference <i>.59</i>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.59}{4} \times .7068 = -.10$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	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					
Forecastle 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 Tanker* *20.52* ✓
(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 × 20.52 = -8.62* ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>54.98</i>	<i>1</i>		<i>54.98</i>	<i>36.0</i>	<i>36.0</i>	<i>1</i>		<i>36.0</i>
$\frac{1}{2}$ L from A.P.	<i>24.465</i>	<i>4</i>		<i>97.86</i>	<i>4.3</i>	<i>4.3</i>	<i>4</i>		<i>17.2</i>
$\frac{2}{3}$ L "	<i>6.05</i>	<i>2</i>		<i>12.10</i>	<i>-</i>	<i>-</i>	<i>2</i>		<i>-</i>
Amidships	<i>-</i>	<i>4</i>		<i>-</i>	<i>-</i>	<i>-</i>	<i>4</i>		<i>-</i>
$\frac{2}{3}$ L from F.P.	<i>12.10</i>	<i>2</i>		<i>24.20</i>	<i>-</i>	<i>-</i>	<i>2</i>		<i>-</i>
$\frac{1}{2}$ L "	<i>48.93</i>	<i>4</i>		<i>195.72</i>	<i>17.1</i>	<i>17.1</i>	<i>4</i>		<i>68.4</i>
F.P.	<i>109.97</i>	<i>1</i>		<i>109.97</i>	<i>72.0</i>	<i>72.0</i>	<i>1</i>		<i>72.0</i>
Total				<i>494.83</i>					<i>193.6</i>

Mean actual sheer aft = *Deficient*
Mean standard sheer aft
Mean actual sheer forward = *Deficient*
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *N.D.*
" " aft of " = *N.D.*

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{301.23}{18} \left(.75 - \frac{1460}{2 \times 449.83} \right) = +10.10$ ✓

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* Ft.
Summer freeboard = *8.37*
Moulded draught (d) = *27.20*

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = *6.8 = 6\frac{3}{4}*

Addition for Winter North Atlantic Freeboard (if required) = *6.8 + 4.50 = 11.30 = 11\frac{3}{4}*

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 16685$ ✓
Tons per inch immersion at summer load water line
 $T = 55.2$ ✓
Deduction = $\frac{\Delta}{40T}$ inches = *7.56* ✓
= *7\frac{1}{2}*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<i>16.74</i>	<i>-8.62</i>
Deduction for superstructures	<i>-</i>	<i>-</i>
Sheer correction	<i>10.10</i>	<i>-</i>
Round of Beam correction	<i>-</i>	<i>0.10</i>
Correction for Thickness of Deck amidships	<i>-</i>	<i>-</i>
Other corrections, scantlings, etc.	<i>-</i>	<i>-</i>
	<i>26.84</i>	<i>8.72</i>

Summer Freeboard = *100.62*

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

Tropical Fresh Water Line above Centre of Disc	<i>14\frac{1}{4} = 361</i>	Tropical Fresh Water Freeboard	<i>8'-4\frac{1}{2}" = 2553</i>
Fresh Water Line " "	<i>7\frac{1}{2} = 190</i>	Fresh Water " "	<i>7'-2\frac{1}{4}" = 2192</i>
Tropical Line " "	<i>6\frac{3}{4} = 171</i>	Tropical " "	<i>7'-9" = 2363</i>
Winter Line below " "	<i>6\frac{3}{4} = 171</i>	Winter " "	<i>7'-9\frac{1}{4}" = 2382</i>
Winter North Atlantic Line " "	<i>11\frac{1}{4} = 286</i>	Winter North Atlantic " "	<i>8'-11\frac{1}{4}" = 2724</i>
			<i>9'-3\frac{3}{4}" = 2839</i>