

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. **30845.**  
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Port of Survey

Date of Survey **3-12-32.**

Name of Surveyor

Particulars of Classification **+ 100 A. 1.**

(Type of Superstructures.)

Ship's Name

**"MINNA."**

Nationality and Port of Registry

**Russian Estonian**

Official Number

**746**

Gross Tonnage

**1365**

Date of Build

**1923**

Moulded Dimensions: Length **234.25'** Breadth **35.33** Depth **18.58'**  
Moulded displacement at moulded draught = 85 per cent. of moulded depth **2835** tons  
Coefficient of fineness for use with Tables **.759**

Depth for Freeboard (D)

Depth ... **18.58**  
Late ... **.04**

on exposed deck  
(-S)  
L =

Depth for Freeboard (D) = **18.62**

Depth correction

(a) Where D is greater than Table depth  
(D - Table depth) R =  
**(18.62 - 15.62) 1.802 = + 5.41"**  
(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) **35.33'**  
Standard Round of Beam =  $\frac{B \times 12}{50} = \mathbf{8.48''}$   
Ship's Round of Beam = **9"**  
Difference **.52"**  
Restricted to  
Correction =  $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.52}{4} \times .3009 = \mathbf{-.04''}$

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
enclosed ...	15.50	15.50	6'-9" + 2 1/2"	✓	15.50
overhang ...					
enclosed ...	67.00	67.00	4'-0"	✓	67.00
overhang ...					
enclosed ...	57.50	57.50	7'-0" + 2 1/2"	✓	57.50
overhang aft ...					
overhang forward ...	0.75	0.37	7'-0" + 2 1/2"	✓	0.37
enclosed ...	21.17	23.42	7'-0"	✓	23.42
overhang ...	2.25				
aft ...					
forward ...					
opening aft ...					
forward ...					
Total ...	164.17	163.79			163.79

Standard Height of Superstructure **6.00**  
" " R.Q.D. **3.895**  
Deduction for complete superstructure **29.42**  
Percentage covered  $\frac{S}{L} = \mathbf{70.08\%}$   
" "  $\frac{S_1}{L} = \mathbf{69.91\%}$   
" "  $\frac{E}{L} = \mathbf{69.91\%}$   
Percentage from Table, Line A. **62.85%**  
(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 = **29.42 x .6285 = - 18.49"**

### SHEER CORRECTION.

n	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
...	33.42	1	33.42	36.00	37.59	1	37.59
P. ...	14.87	4	59.48	15.80	16.73	4	66.92
...	3.68	2	7.36	3.95	4.14	2	8.28
...		4				4	
P. ...	7.35	2	14.70	8.09	8.09	2	16.18
...	29.75	4	119.00	32.38	32.38	4	129.52
...	66.85	1	66.85	72.00	72.00	1	72.00
l ...			300.81				330.49

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 = **.098**

" " aft of " = **.500**

actual R.Q.D. Ht. = **48"**  
Standard R.Q.D. Ht. = **46.74**  
Excess 1.26" at Prop Bhd.

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{29.68}{18} (.75 - .3504) = \mathbf{-.66}$   
If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Correction for Tropical Freeboard.

Correction for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **18.62'**  
Summer freeboard = **1.43'**  
Moulded draught (d) = **17.19'**

Correction for Tropical freeboard and addition for

Freeboard =  $\frac{d}{4}$  inches = **430" = 109 1/2"**

Correction for Winter North Atlantic Freeboard (if d) = **51 1/2"**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

T =

Deduction =  $\frac{\Delta}{40 T}$  inches  
= **109 1/2"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

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

+	-
5.41	-
-	18.49
-	.65
-	.04
-	-
-	-
5.41	19.18

Summer Freeboard = **17.19' = 437 1/2"**

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

Tropical Fresh Water Line above Centre of Disc ...	218 1/2"	Tropical Fresh Water Freeboard ...	328 1/2"
Fresh Water Line " " ...	109 1/2"	Fresh Water " " ...	328 1/2"
Tropical Line " " ...	109 1/2"	Tropical " " ...	546 1/2"
Winter Line below " " ...	109 1/2"	Winter " " ...	597 1/2"
Winter North Atlantic Line " " ...	160 1/2"	Winter North Atlantic " " ...	