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# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. 30949  
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Ship's Name <b>INVELLA.</b>				Nationality and Port of Registry	Official Number <b>5026</b>	Gross Tonnage <b>1924</b>	Date of Build <b>1924</b>
(Type of Superstructures.)				Port of Survey			
Moulded Dimensions: Length				Breadth	Depth		
Moulded displacement at moulded draught = 85 per cent. of moulded depth				tons			
Coefficient of fineness for use with Tables				<b>766.</b>			
Date of Survey				Name of Surveyor			
Particulars of Classification							

<b>Depth for Freeboard (D)</b> Moulded depth ... .. Stringer plate ... .. Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ Depth for Freeboard (D) = <b>31.04</b>	<b>Depth correction</b> (a) Where D is greater than Table depth (D-Table depth) R = <b>+ 13.23"</b> (b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>✓</b> If restricted by superstructures <b>✓</b>	<b>Round of Beam correction</b> Moulded Breadth (B) Standard Round of Beam = $\frac{B \times 12}{50} =$ Ship's Round of Beam = <b>=</b> Difference Restricted to Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = - .06"$
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### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..					
" overhang ... ..					
R.Q.D. enclosed ... ..					
" overhang ... ..					
Bridge enclosed ... ..					
" overhang aft ... ..					
" overhang forward ... ..					
Forecastle enclosed ... ..					
" overhang ... ..					
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ... ..					
" " forward ... ..					
Total ... ..					

Standard Height of Superstructure  
" " R.Q.D.  
Deduction for complete superstructure **41.96**  
Percentage covered  $\frac{S}{L} =$   
" "  $\frac{S_1}{L} =$   
" "  $\frac{E}{L} = 50.72\%$   
Percentage from Table, Line A. **Timber**  
(corrected for absence of fore-castle (if required)) **69.70%**  
Percentage from Table, Line B.  
(corrected for absence of fore-castle (if required))  
Interpolation for bridge less than 2L (if required)  
Deduction = **41.96 x .697 = - 29.25"**

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..		1					1		
$\frac{1}{2}L$ from A.P. ... ..		4					4		
$\frac{3}{8}L$ " ... ..		2					2		
Amidships ... ..		4					4		
$\frac{3}{8}L$ from F.P. ... ..		2					2		
$\frac{1}{2}L$ " ... ..		4					4		
F.P. ... ..		1					1		
Total ... ..									

Mean actual sheer aft =  
Mean standard sheer aft =  
Mean actual sheer forward =  
Mean standard sheer forward =  
Length of enclosed superstructure forward of amidships =  
" " aft of " =

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = - 2.27$

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <b>31.04'</b> Summer freeboard = <b>4.79'</b> Moulded draught (d) = <b>26.25'</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>6.56" = 6.2"</b> Addition for Winter North Atlantic Freeboard (if required) = $\frac{d}{3} = 8.75' = 8.4" $	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta = 12022$ Tons per inch immersion at summer load water line $T = 41.30$ Deduction = $\frac{\Delta}{40 T}$ inches = <b>7.25" = 7.4"</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient Depth Correction ... .. <b>13.23</b> Deduction for superstructures ... .. <b>- 29.25</b> Sheer correction ... .. <b>- 2.27</b> Round of Beam correction ... .. <b>- .06</b> Correction for Thickness of Deck amidships ... .. <b>-</b> Other corrections, scantlings, etc. ... .. <b>-</b> <b>13.23 31.58 - 18.35</b> Summer Freeboard = <b>57.51</b>
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**SUMMER FREEBOARD** amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Line	Freeboard	Line	Freeboard
Tropical Fresh Water Line above Centre of Disc	<b>68.4" = 5.7'</b>	Tropical Fresh Water Freeboard	<b>4' - 9.2" = 46.1"</b>
" Fresh Water Line	<b>53.3" = 4.4'</b>	" Fresh Water	<b>3' - 7.3" = 37.3"</b>
" Tropical Line	<b>51.4" = 4.2'</b>	" Tropical	<b>4' - 2.4" = 42.4"</b>
" Winter Line	<b>127.0" = 10.5'</b>	" Winter	<b>4' - 3.3" = 43.3"</b>
" Winter North Atlantic Line	<b>159.0" = 13.2'</b>	" Winter North Atlantic	<b>6' - 5.2" = 65.2"</b>

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