

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <u>Bristol</u>	
having <u>a poop, bridge and fore-castle</u>					Date of Survey <u>20/23 Feb. 1933</u>	
(Type of Superstructures.)					Name of Surveyor <u>John W. Gwynne</u>	
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	Particulars of Classification <u>+100A1</u>	
<u>"MOVIKEN"</u>	<u>Norwegian</u> <u>Bergen</u>	<u>✓</u>	<u>2494</u>	<u>1922-2</u>		
Moulded Dimensions: Length	<u>299</u>	Breadth	<u>43.5</u>	Depth	<u>24.46</u>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth			<u>6065</u>	tons		
Coefficient of fineness for use with Tables			<u>785</u>			

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth ...	...	(a) Where D is greater than Table depth (D - Table depth) R =	<u>+10.51</u>	Moulded Breadth (B)	
Stringer plate ...	...	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$ =	
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$		If restricted by superstructures		Ship's Round of Beam =	
Depth for Freeboard (D) =	<u>24.50</u>			Difference	
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$ =	<u>- .04</u>

## 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 ...	...				
F'cle enclosed ...	...				
" overhang ...	...				
Trunk aft ...	...				
" forward ...	...				
Tonnage opening aft ...	...				
" " forward ...	...				
Total ...					<u>143.11</u>

Standard Height of Superstructure	<u>6.49</u>
" " R.Q.D.	<u>✓</u>
Deduction for complete superstructure	<u>35.27</u>
Percentage covered $\frac{S}{L}$ =	
" " $\frac{S_1}{L}$ =	
" " $\frac{E}{L}$ =	<u>47.86</u>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, <u>Line B. Timber</u>	<u>67.91</u>
(corrected for absence of forecastle (if required))	<u>✓</u>
Interpolation for bridge less than .2L (if required)	<u>✓</u>
Deduction =	<u>35.27 × 67.91 = -23.95</u>

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...		1					1		
$\frac{1}{8}$ L from A.P. ...		4					4		
$\frac{2}{8}$ L " ...		2					2		
Amidships ...		4					4		
$\frac{3}{8}$ L from F.P. ...		2					2		
$\frac{1}{8}$ 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 =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$  +6.55

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 = 24.50  
Summer freeboard = 3.29  
Moulded draught (d) = 21.21

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 5.30 = 5 $\frac{1}{4}$ "  
= 133 mAddition for Winter North Atlantic Freeboard (if required) =  $\frac{d}{3} = 7.07 = 7"$  = 178 m

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$  6335

Tons per inch immersion at summer load water line

$T =$  26.50

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

$=$  5.97"

$= 6" = 152 m$

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ...	<u>10.51</u>	-
Deduction for superstructures ...	<u>-</u>	<u>23.95</u>
Sheer correction ...	<u>6.55</u>	-
Round of Beam correction ...	<u>-</u>	<u>.04</u>
Correction for Thickness of Deck amidships ...	<u>-</u>	<u>-</u>
Other corrections, scantlings, etc. ...	<u>-</u>	<u>-</u>
	<u>17.06</u>	<u>23.99</u>

Summer Freeboard = 39.56Timber SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: 3'-3 $\frac{1}{2}$ " = 1003 mTimber Tropical Fresh Water Line above Centre of Disc ... 23 $\frac{1}{4}$ " = 590 m Timber Tropical Fresh Water Freeboard ... 2'-4 $\frac{1}{4}$ " = 718 m" Fresh Water Line " " ... 18" = 457 m Fresh Water " " ... 2'-9 $\frac{1}{2}$ " = 851 m" Tropical Line " " ... 17 $\frac{1}{4}$ " = 438 m Tropical " " ... 2'-10 $\frac{1}{4}$ " = 870 m" Winter Line below " " ... 5" = 127 m Winter " " ... 3'-10 $\frac{1}{2}$ " = 1181 m" Winter North Atlantic Line below " " ... 7" = 178 m Winter North Atlantic " " ... 4'-10 $\frac{1}{2}$ " = 1486 m" Summer above " 12" = 305 m