

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index No. **33718**  
(For London Office only.)

Ship's Name <b>"BRITANNIC"</b>	Official Number <b>162316</b>	Nationality and Port of Registry <b>BRITISH LIVERPOOL</b>	Gross Tonnage <b>27,666</b>	Date of Build <b>1930</b>	Port of Survey
Moulded Dimensions: Length <b>680.00'</b> Breadth <b>82.00'</b> Depth <b>52.87'</b>					Date of Survey <b>9-8-48</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>52 811</b> tons					Surveyor's Signature <b>E.J.</b>
Coefficient of fineness for use with Tables <b>.738</b>					Particulars of Classification <b>+100 A1. with freeboard.</b>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. <b>52.87</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>(53.00-45.33) 3 = + 23.01</b>	Moulded Breadth (B) <b>82.00'</b>
Stringer plate ... .. <b>.05</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>7.67</b>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>19.68"</b>
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <b>see over</b> <b>.08</b>	If restricted by superstructures	Ship's Round of Beam = <b>6.00</b>
Depth for Freeboard (D) = <b>53.00</b>		Difference <b>-13.68</b>
		Restricted to
		Correction = $\frac{\text{Diff.}}{4} \times \left( 1 - \frac{S_1}{L} \right) =$ <b><math>\frac{13.68}{4} \times .3336 = + 1.16</math></b>

### 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 ... ..	<b>324.42</b>	<b>324.42</b>	<b>8.5</b>	<b>✓</b>	<b>324.42</b>
" overhang aft ... ..	<b>.88</b>	<b>.66</b>			<b>.66</b>
" overhang forward ... ..					
Fore enclosed ... ..	<b>124.00</b>	<b>124.00</b>	<b>8.5</b>	<b>✓</b>	<b>124.00</b>
" overhang ... ..					
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ... ..					
" " forward ... ..					
Total ... ..	<b>449.30</b>	<b>449.08</b>			<b>449.08</b>

Standard Height of Superstructure **7.5'**

" " R.Q.D. **42"**

Deduction for complete superstructure **42"**

Percentage covered  $\frac{S}{L} =$  **66.08**

" "  $\frac{S_1}{L} =$  **66.04** ✓

" "  $\frac{E}{L} =$

Percentage from Table, Line A. ✓

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. **56.27** ✓

(corrected for absence of forecastle (if required))

Interpolation for bridge less than .2L (if required)

Deduction = **42 x .5627 = - 23.63** ✓

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<b>78.00</b>	<b>1</b>		<b>78.00</b>	<b>49.00</b>	<b>49.00</b>	<b>1</b>		<b>49.00</b>
$\frac{1}{2}$ L from A.P. ... ..	<b>34.32</b>	<b>4</b>		<b>138.88</b>	<b>18.00</b>	<b>18.00</b>	<b>4</b>		<b>72.00</b>
$\frac{1}{2}$ L " ... ..	<b>8.58</b>	<b>2</b>		<b>17.16</b>	<b>1.50</b>	<b>1.50</b>	<b>2</b>		<b>3.00</b>
Amidships ... ..	<b>-</b>	<b>4</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>		<b>-</b>
$\frac{1}{2}$ L from F.P. ... ..	<b>17.16</b>	<b>2</b>		<b>34.32</b>	<b>18.50</b>	<b>18.50</b>	<b>2</b>		<b>37.00</b>
$\frac{1}{2}$ L " ... ..	<b>69.44</b>	<b>4</b>		<b>277.76</b>	<b>61.50</b>	<b>61.50</b>	<b>4</b>		<b>246.00</b>
F.P. ... ..	<b>156.00</b>	<b>1</b>		<b>156.00</b>	<b>136.00</b>	<b>136.00</b>	<b>1</b>		<b>136.00</b>
Total ... ..			<b>✓</b>	<b>702.12</b>				<b>✓</b>	<b>543.00</b>

Mean actual sheer aft =

Mean standard sheer aft = } **deficient**

Mean actual sheer forward =

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = } **deficient**

" " aft of " = } **sheer**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$   **$\frac{159.12}{18} (.75 - .3304) = + 3.71$**  ✓

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.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient <b><math>\frac{.738 + .68}{1.36} = 1.418</math></b>	<b>148.10</b> ✓
Depth to Freeboard Deck = <b>53.13</b>	$\Delta =$ <b>39 352</b>		<b>154.44</b> ✓
Summer freeboard = <b>18.40</b>	Tons per inch immersion at summer load water line	Depth Correction ... .. <b>23.01</b>	
Moulded draught (d) = <b>34.73</b>	T = <b>110.6</b>	Deduction for superstructures ... .. <b>23.63</b>	
Deduction for Tropical Freeboard and addition for	Deduction = $\frac{\Delta}{40 T}$ inches	Sheer correction ... .. <b>3.71</b>	
Winter freeboard = $\frac{d}{4}$ inches = <b>8.68" = 8<math>\frac{3}{4}</math>"</b>	= <b>8.89</b>	Round of Beam correction ... .. <b>1.16</b>	
Addition for Winter North Atlantic Freeboard (if required) =	= <b>9"</b>	Correction for Thickness of Deck amidships ... .. <b>1.56</b>	
		Other corrections, scantlings, etc. corresponding to a winter moulded draught of <b>34.00'</b>	
		<b>60.50</b>	
		<b>88.94</b>	
		Summer Freeboard = <b>220.75</b> ✓	

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

Tropical Fresh Water Line above Centre of Disc ... .. <b>17<math>\frac{3}{4}</math>"</b>	Tropical Fresh Water Freeboard
Fresh Water Line " " ... .. <b>9"</b>	Fresh Water " "
Tropical Line " " ... .. <b>8<math>\frac{3}{4}</math>"</b>	Tropical " "
Winter Line below " " ... .. <b>8<math>\frac{3}{4}</math>"</b>	Winter " "
Winter North Atlantic Line " " ... .. <b>✓</b>	Winter North Atlantic " "



A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Bridge 325.3 ✓  
less  $\frac{9 \times 8}{82}$  = .88  
Equiv = 324.42 ✓

Wood sheathing : fore 47.25 x .21 = 9.922 ✓  
aft 183.45 x .25 = 45.865 ✓  
55.787 ✓  
55.787  
680

Trade of ship .....

Names of sister ships .....

Builder's name and yard number .....

Owners .....

Fee £ .....



© 2021

Lloyd's Register  
Foundation