

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>Runic.</b>	Official Number <b>183591</b>	Nationality and Port of Registry <b>BRITISH SOUTHAMPTON</b>	Gross Tonnage <b>13587</b>	Date of Build <b>1949</b>	Port of Survey _____
Moulded Dimensions: Length <b>531.40'</b> Breadth <b>72.00'</b> Depth <b>43.41'</b>					Date of Survey <b>25.4.50.</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>28816</b> tons					Surveyor's Signature _____
Coefficient of fineness for use with Tables <b>714</b>					Particulars of Classification _____

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <b>43.41</b>	(a) Where D is greater than Table depth (D - Table depth) R = <b>(43.51 - 35.43) 3 = + 24.24"</b> ✓	Moulded Breadth (B) <b>72.00'</b>
Stringer plate ... <b>04</b>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <b>8.08</b>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>17.28</b>
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) = \frac{130}{531.40} \times 25 =$ <b>06</b>	If restricted by superstructures ✓	Ship's Round of Beam = <b>18.00</b>
Depth for Freeboard (D) = <b>43.51</b>		Difference <b>072</b>
		Restricted to
		Correction = $\frac{\text{Diff}^c}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{72}{4} \times 3863 =$ <b>07</b>

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed <i>Exempt</i> ...	64.54	64.54	8.0	✓	64.54	Standard Height of Superstructure <u>7.50</u> " " R.Q.D. _____
" overhang ...						
R.Q.D. enclosed ...						Percentage covered $\frac{S}{L} =$ <u>61.50</u>
" overhang ...						" " $\frac{S_1}{L} =$ <u>61.37</u>
Bridge enclosed <i>Exempt</i> ...	198.34	198.34	8.0	✓	198.34	" " $\frac{E}{L} =$ <u>61.37</u>
" overhang aft ...						Percentage from Table, Line A. <u>48.33</u>
" overhang forward ...						(corrected for absence of forecastle (if required)) ✓
F'cle enclosed <i>Exempt</i> ...	62.55	62.55	8.0	✓	62.55	Percentage from Table, Line B. ✓
" overhang ...	1.37	.69			.69	(corrected for absence of forecastle (if required)) ✓
Trunk aft ...						Interpolation for bridge less than 2L (if required) ✓
" forward ...						Deduction = <u>42.00 × 48.33 = 20.30"</u> ✓
Tonnage opening aft ...						
" " forward ...						
Total ...	326.80	326.12			326.12	

### SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<b>63.14</b>	1	<b>63.14</b>	<b>72.69</b>	<b>72.69</b>	1	<b>72.69</b>
$\frac{3}{4}$ L from A.P. ...	<b>28.10</b>	4	<b>112.40</b>	<b>32.13</b>	<b>32.13</b>	4	<b>128.52</b>
$\frac{2}{4}$ L „ ...	<b>6.945</b>	2	<b>13.89</b>	<b>7.88</b>	<b>7.88</b>	2	<b>15.76</b>
Amidships ...	✓	4	✓	✓	✓	4	✓
$\frac{3}{4}$ L from F.P. ...	<b>13.89</b>	2	<b>27.78</b>	<b>17.38</b>	<b>17.38</b>	2	<b>34.76</b>
$\frac{1}{4}$ L „ ...	<b>56.20</b>	4	<b>224.80</b>	<b>69.25</b>	<b>69.25</b>	4	<b>277.00</b>
F.P. ...	<b>126.28</b>	1	<b>126.28</b>	<b>156.25</b>	<b>156.25</b>	1	<b>156.25</b>
Total ...			<b>568.29</b>				<b>684.98</b>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{116.69}{18} \left( .75 - \frac{307.5}{684.98} \right) =$  **-2.87"** ✓  
If limited on account of midship superstructure. If limited to maximum allowance of 1½ ins. per 100 ft. ✓

### Deduction for Tropical Freeboard.

### Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **43.45**  
Summer freeboard = **11.62**  
Moulded draught (d) = **31.83**

### Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = **7.96 = 8**

### Addition for Winter North Atlantic Freeboard (if required) =

### Deduction for Fresh Water.

Displacement in salt water at summer load water line  $\Delta =$  **24413**  
Tons per inch immersion at summer load water line  $T =$  **76.85**  
Deduction =  $\frac{\Delta}{40 T}$  inches = **7.94**  
**8**

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

Correction for coefficient **714 + 68 / 1.36 = 1394 / 1.36**

	+	-
Depth Correction ...	<b>24.24</b>	✓
Deduction for superstructures ...	<b>20.30</b>	✓
Sheer correction ...	<b>2.87</b>	✓
Round of Beam correction ...	<b>07</b>	✓
Correction for Thickness of Deck amidships ...	<b>72</b>	✓
Other corrections, scantlings, etc. to summer draught of 31.11	<b>25.15</b>	✓
	<b>49.39</b>	<b>23.96</b>

Summer Freeboard = **139.50**

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

Tropical Fresh Water Line above Centre of Disc **16.7 1/2**  
Fresh Water Line „ „ **16.0 1/2**  
Tropical Line „ „ **16.0 1/2**  
Winter Line below „ „ **12.0 1/2**  
Winter North Atlantic Line „ „ **12.0 1/2**

Tropical Fresh Water Freeboard **16.7 1/2**  
Fresh Water „ **16.0 1/2**  
Tropical „ **16.0 1/2**  
Winter „ **12.0 1/2**  
Winter North Atlantic „ **12.0 1/2**