

# 102411 Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER.~~)

Ship's Name <b>S.S. EMPIRE</b> <b>DYNASTY</b> <b>N.N. EASTERN</b>	Official Number <b>180145</b>	Nationality and Port of Registry <b>British</b> <b>Sunderland</b> <b>London 31.7.44</b>	Gross Tonnage <b>9905</b> <b>9896</b> <b>11.66</b>	Date of Build <b>1944</b> <b>1944</b> <b>1944</b>	Port of Survey <b>Sunderland &amp; Newcastle</b> Date of Survey <b>During construction</b> Surveyor's Signature <b>J. E. Miller &amp; G. Young</b> Particulars of Classification <b>+100 A.1 with freeboard (contemplated)</b>
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Moulded Dimensions: Length **465.96** Breadth **64.0** Depth **42.67**  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth **(@ 36.27) 21748** tons  
 Coefficient of fineness for use with Tables **.704**

<b>DEPTH FOR FREEBOARD (D).</b> Moulded depth ... <b>42.67</b> Stringer plate ... <b>.72 .06</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ Depth for Freeboard (D) = <b>42.73</b>	<b>DEPTH CORRECTION.</b> (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(42.73 - 31.07) \times 3 = +34.98$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ If restricted by superstructures	<b>ROUND OF BEAM CORRECTION.</b> Moulded Breadth (B) <b>64.0</b> Standard Round of Beam = $\frac{B \times 12}{50} =$ Ship's Round of Beam = <b>16</b> Difference Restricted to Correction = $\frac{\text{Diff}^\circ}{4} \times \left( 1 - \frac{S_1}{L} \right) =$
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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 ...	<b>33.96</b>	<b>33.96</b>	<b>7.5</b>	<b>-</b>	<b>33.96</b>
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...					
„ overhang aft ...					
„ overhang forward ...					
F'cle enclosed <b>sec. sketch</b> ...	<b>28.67</b>	<b>28.67</b>	<b>7.0</b>	<b>x 7.75</b>	<b>26.76</b>
„ overhang ...	<b>4.33</b>	<b>3.64</b>	<b>7.0</b>		<b>3.40</b>
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward ...					
Total ...	<b>66.96</b>	<b>66.27</b>			<b>64.12</b>

Standard Height of Superstructure **7.5**  
 „ „ R.Q.D. **-**  
 Deduction for complete superstructure **42**  
 Percentage covered  $\frac{S}{L} =$  **14.37**  
 „ „  $\frac{S_1}{L} =$  **14.22**  
 „ „  $\frac{E}{L} =$  **13.76**  
 Percentage from Table, Line A. **6.88**  
 (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 = **42 x .0688 = -2.89**

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<b>56.596</b>	<b>1</b>	<b>56.596</b>	<b>54.25</b>	<b>54.25</b>	<b>1</b>	<b>54.25</b>
$\frac{1}{8}L$ from A.P. ...	<b>25.19</b>	<b>4</b>	<b>100.76</b>	<b>10.00</b>	<b>10.00</b>	<b>4</b>	<b>40.00</b>
$\frac{2}{8}L$ „ ...	<b>6.22</b>	<b>2</b>	<b>12.44</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>-</b>
Amidships ...	<b>-</b>	<b>4</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>	<b>-</b>
$\frac{2}{8}L$ from F.P. ...	<b>12.45</b>	<b>2</b>	<b>24.90</b>	<b>7.62</b>	<b>7.62</b>	<b>2</b>	<b>15.24</b>
$\frac{1}{8}L$ „ ...	<b>50.37</b>	<b>4</b>	<b>201.48</b>	<b>40.50</b>	<b>40.50</b>	<b>4</b>	<b>162.00</b>
F.P. ...	<b>113.192</b>	<b>1</b>	<b>113.19</b>	<b>108.87</b>	<b>108.87</b>	<b>1</b>	<b>108.87</b>
Total ...			<b>509.37</b>				<b>380.36</b>

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 „ =  
 Sheer forward  
 $\frac{12.45}{50.37} \times \frac{37.35}{151.11} \times \frac{7.62}{40.50} \times \frac{22.86}{121.50} \times \frac{252.23}{301.65} = 83.95$   
 Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{129.01}{18} (.75 - .0718) = +4.86$   
 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>42.73</b> Summer freeboard = <b>13.13</b> Moulded draught (d) = <b>29.60</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>7.40 = 7½</b> Addition for Winter North Atlantic Freeboard (if required) =	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta = 17127$ Tons per inch immersion at summer load water line $T = 57.15$ Deduction = $\frac{\Delta}{40 T}$ inches = <b>7.49 = 7½</b> See over	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient $\frac{.704 + .68}{1.36} = \frac{1.384}{1.36}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td><b>34.98</b></td> <td><b>-</b></td> </tr> <tr> <td>Deduction for superstructures</td> <td><b>-</b></td> <td><b>2.89</b></td> </tr> <tr> <td>Sheer correction</td> <td><b>4.86</b></td> <td><b>-</b></td> </tr> <tr> <td>Round of Beam correction</td> <td><b>-</b></td> <td><b>.14</b></td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td><b>-</b></td> <td><b>-</b></td> </tr> <tr> <td>Other corrections, scantlings, etc. (transferred)</td> <td><b>27.01</b></td> <td><b>-</b></td> </tr> <tr> <td><b>66.85</b></td> <td><b>3.03</b></td> <td><b>+ 63.82</b></td> </tr> </table> Summer Freeboard = <b>157.50</b>		+	-	Depth Correction	<b>34.98</b>	<b>-</b>	Deduction for superstructures	<b>-</b>	<b>2.89</b>	Sheer correction	<b>4.86</b>	<b>-</b>	Round of Beam correction	<b>-</b>	<b>.14</b>	Correction for Thickness of Deck amidships	<b>-</b>	<b>-</b>	Other corrections, scantlings, etc. (transferred)	<b>27.01</b>	<b>-</b>	<b>66.85</b>	<b>3.03</b>	<b>+ 63.82</b>
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## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc	...	<b>15</b>	Tropical Fresh Water Freeboard	...	<b>11-10½</b>
Fresh Water Line	...	<b>7½</b>	Fresh Water	...	<b>12-6</b>
Tropical Line	...	<b>7½</b>	Tropical	...	<b>12-6</b>
Winter Line below	...	<b>7½</b>	Winter	...	<b>13-9</b>
Winter North Atlantic Line	...	<b>✓</b>	Winter North Atlantic	...	<b>✓</b>



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.

Displacement at 29'-8 1/4" draft = 17042 tons  
Tons Per Inch = 57.15.

*Quint*

For Basis Computation  
See "Empire Paragon" 37232

*Quint*

*Quint*

Trade of ship .....

Names of sister ships *SS. Empire Paragon Sld. Rpt. No. 33979*

Builder's name and yard number *Messrs J.L. Thompson & Son Ltd Yard No. 631.  
Completed by Messrs Smiths Dock Co Ltd North Shields*

Owners *Ministry of War Transport*

Fee £ *2* .....



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