

## Lloyd's Register of Shipping.

Index No. 36779  
(For London Office only)

## SURVEYS FOR FREEBOARD.

No 33346

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>S.S. EMPIRE BARRIE.</b>	Official Number <b>169016</b>	Nationality and Port of Registry <b>British Sunderland</b>	Gross Tonnage <b>7168</b> <i>7103 per M &amp; T Dec 16/12/47</i>	Date of Build <b>1942</b>	Port of Survey <b>Sunderland</b>
Moulded Dimensions: Length <b>417.5</b> Breadth <b>56.875</b> Depth <b>37.33</b> <i>28.58</i>					Date of Survey <b>During Construction</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>16600</b> tons					Surveyor's Signature <b>W. E. Yella</b>
Coefficient of fineness for use with Tables <b>.771</b>					Particulars of Classification <b>+100 A.1 with freeboard (contemplated)</b>

<b>Depth for Freeboard (D).</b> Moulded depth ... <b>37.33</b> Stringer plate ... <b>.64</b> ... <b>.05</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <b>✓</b> Depth for Freeboard (D) = <b>37.38</b>	<b>Depth correction.</b> (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ <b><math>(37.38 - 27.83) \times 3 = +12.65</math></b> <b>9.55</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) <b>56.875</b> Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>13.65</b> Ship's Round of Beam = <b>14</b> Difference <b>.35</b> Restricted to <b>✓</b> Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.35}{4} \times 1 = -.09$
---	--	--

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure
„ overhang ...						„ „ R.Q.D.
R.Q.D. enclosed ...						Deduction for complete superstructure
„ overhang ...						Percentage covered $\frac{S}{L} =$
Bridge enclosed ...						„ „ $\frac{S_1}{L} =$
„ overhang aft ...						„ „ $\frac{E}{L} =$
„ overhang forward						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Fore enclosed ...						Percentage from Table, Line B. (corrected for absence of forecastle (if required))
„ overhang ...						Interpolation for bridge less than .2L (if required)
Trunk aft ...						Deduction = <b>Nie</b>
„ forward ...						
Tonnage opening aft ...						
„ „ forward						
Total ...						

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	51.75	1	51.75	54	54	1	54.00			Mean actual sheer aft =
1/4 L from A.P. ...	23.025	4	92.10	24	24	4	96.00			Mean standard sheer aft =
1/2 L „ ...	5.69	2	11.38	6	6	2	12.00			Mean actual sheer forward =
Amidships ...	-	4	-	0	-	4	-			Mean standard sheer forward =
3/4 L from F.P. ...	11.38	2	22.76	11 2/3	11.67	2	23.34			Length of enclosed superstructure forward of amidships =
1/4 L „ ...	46.05	4	184.20	46 2/3	46.67	4	186.68			„ „ aft of „ =
F.P. ...	103.50	1	103.50	105	105.0	1	105.00			
Total ...			465.69				477.02			

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{11.33}{18} \times .75 = -.47$   
 If limited on account of midship superstructure.

Mean actual sheer aft = } Excess  
 Mean standard sheer aft = }  
 Mean actual sheer forward = }  
 Mean standard sheer forward = }  
 Length of enclosed superstructure forward of amidships = } Nie.  
 „ „ aft of „ = }

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Et. Depth to Freeboard Deck = <b>37.38</b> Summer freeboard = <b>10.58</b> Moulded draught (d) = <b>26.80</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>6.70 = 6 3/4</b> Addition for Winter North Atlantic Freeboard (if required) = <b>✓</b>	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta =$ <b>13764</b> Tons per inch immersion at summer load water line $T =$ <b>49.44</b> Deduction = $\frac{\Delta}{40T}$ inches = <b>6.96</b> <b>= 7"</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient $\frac{77.00 + 6.26}{1.36} = 1.45$ <table border="1"> <thead> <tr> <th></th> <th>+</th> <th>-</th> <th></th> </tr> </thead> <tbody> <tr> <td>Depth Correction ...</td> <td>18.65</td> <td>-</td> <td></td> </tr> <tr> <td>Deduction for superstructures ...</td> <td>-</td> <td>-</td> <td>82.8</td> </tr> <tr> <td>Sheer correction ...</td> <td>-</td> <td>.47</td> <td></td> </tr> <tr> <td>Round of Beam correction ...</td> <td>-</td> <td>.09</td> <td>17.3.42</td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td>-</td> <td>-</td> <td></td> </tr> <tr> <td>Other corrections, scantlings, <i>to compensate to a summer moulded draught</i></td> <td>10.07</td> <td>-</td> <td></td> </tr> <tr> <td><b>Summer Freeboard =</b></td> <td><b>38.72</b></td> <td><b>.56</b></td> <td><b>+ 38.16</b></td> </tr> </tbody> </table>		+	-		Depth Correction ...	18.65	-		Deduction for superstructures ...	-	-	82.8	Sheer correction ...	-	.47		Round of Beam correction ...	-	.09	17.3.42	Correction for Thickness of Deck amidships ...	-	-		Other corrections, scantlings, <i>to compensate to a summer moulded draught</i>	10.07	-		<b>Summer Freeboard =</b>	<b>38.72</b>	<b>.56</b>	<b>+ 38.16</b>
	+	-																																
Depth Correction ...	18.65	-																																
Deduction for superstructures ...	-	-	82.8																															
Sheer correction ...	-	.47																																
Round of Beam correction ...	-	.09	17.3.42																															
Correction for Thickness of Deck amidships ...	-	-																																
Other corrections, scantlings, <i>to compensate to a summer moulded draught</i>	10.07	-																																
<b>Summer Freeboard =</b>	<b>38.72</b>	<b>.56</b>	<b>+ 38.16</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>13 3/4</b>
Fresh Water Line „ „ ...	<b>7 3/4</b>
Tropical Line „ „ ...	<b>6 3/4</b>
Winter Line below „ „ ...	<b>6 3/4</b>
Winter North Atlantic Line „ „ ...	<b>✓</b>

Tropical Fresh Water Freeboard ...	<b>10' - 7"</b>
Fresh Water „ „ ...	<b>9' - 5 1/4"</b>
Tropical „ „ ...	<b>10' - 0"</b>
Winter „ „ ...	<b>10' - 0 1/4"</b>
Winter North Atlantic „ „ ...	<b>11' - 1 3/4"</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.

Load displacement at 27'-0" extreme draft = 13800 tons  
Ton Per Inch = 49.44. ✓

For tonnage computation  
see "Empire Liberty" 36647

over

Trade of ship

Names of sister ships S.S. EMPIRE LIBERTY, EMPIRE HALLEY, EMPIRE JOHNSON, EMPIRE NOMAD. SLD RPTS. N°S 33208

Builder's name and yard number Messrs. J. L. Thompson & Sons Ltd N° 615. 33220  
33271  
33311.

Owners Ministry of War Transport.

Fee £ 18

will be charged on completion.



© 2020

Lloyd's Register  
Foundation