

Empire Airman  
36724

## Lloyd's Register of Shipping.

Index No. 36749  
(For London Office only).

## SURVEYS FOR FREEBOARD.

No. 33312

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>EMPIRE MARYELL</b>	Official Number <b>169015</b>	Nationality and Port of Registry <b>BRITISH Newcastle SUNDERLAND</b>	Gross Tonnage <b>9812</b>	Date of Build <b>1942</b>	Port of Survey <b>Sunderland</b>
Moulded Dimensions: Length <b>476.96</b> Breadth <b>68.00</b> Depth <b>36.00</b>				Date of Survey <b>During Construction</b>	Surveyor's Signature <b>W. E. C. Bulla</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>21467</b> tons				Particulars of Classification <b>+100 A.1. carrying petroleum in bulk (contemplated)</b>	
Coefficient of fineness for use with Tables <b>76 757</b>					

<b>Depth for Freeboard (D).</b> Moulded depth ... <b>36.00</b> Stringer plate ... <b>.82</b> ... <b>.07</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <b>✓</b> Depth for Freeboard (D) = <b>36.07</b>	<b>Depth correction.</b> (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(36.07 - 31.80) \times 3 = +12.81"$ <b>427</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>68.00</b> Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>16.32</b> Ship's Round of Beam = <b>17</b> Difference <b>.68"</b> Restricted to Correction = $\frac{\text{Diff}^*}{4} \times (1 - \frac{S_1}{L}) =$ <b>.68</b> $\times$ <b>.6903</b> = <b>.12"</b>
---	---	---

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<b>113.32</b>	<b>113.2</b>	<b>7.5</b>	<b>✓</b>	<b>113.2</b>	Standard Height of Superstructure <b>7.5'</b>
.. overhang ...	<b>✓</b>					.. R.Q.D. <b>✓</b>
R.Q.D. enclosed ...	<b>✓</b>					Deduction for complete superstructure <b>42.00"</b>
.. overhang ...	<b>✓</b>					Percentage covered $\frac{S}{L} =$
Bridge enclosed...	<b>✓</b>					$\frac{S_1}{L} =$ <b>30.97</b>
.. overhang aft ...	<b>✓</b>					$\frac{E}{L} =$
.. overhang forward	<b>✓</b>					Percentage from Table, Line <b>Tanker 21.97</b>
Fore enclosed ...	<b>34.5</b>	<b>34.5</b>	<b>7.5</b>	<b>✓</b>	<b>34.5</b>	(corrected for absence of forecastle (if required)) <b>✓</b>
.. overhang ...	<b>✓</b>					Percentage from Table, Line B.
Trunk aft ...	<b>✓</b>					(corrected for absence of forecastle (if required)) <b>✓</b>
.. forward ...	<b>✓</b>					Interpolation for bridge less than 2L (if required) <b>✓</b>
Tonnage opening aft ...	<b>✓</b>					Deduction = <b>42 x .2197 = -9.23"</b>
.. forward	<b>✓</b>					
Total ...	<b>147.8</b>	<b>147.7</b>			<b>147.7</b>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<b>57.70</b>	<b>1</b>		<b>57.70</b>	<b>45.34</b>	<b>45.75</b>	<b>1</b>		<b>45.75</b>	Mean actual sheer aft =
$\frac{1}{2}L$ from A.P. ...	<b>15.67</b>	<b>4</b>		<b>102.68</b>	<b>20.12</b>	<b>20.50</b>	<b>4</b>		<b>82.00</b>	Mean standard sheer aft =
$\frac{2}{3}L$ " ...	<b>6.345</b>	<b>2</b>		<b>12.69</b>	<b>5.38</b>	<b>5.375</b>	<b>2</b>		<b>10.75</b>	} Deficient
Amidships ...	<b>-</b>	<b>4</b>		<b>-</b>	<b>0</b>	<b>-</b>	<b>4</b>		<b>-</b>	
$\frac{2}{3}L$ from F.P. ...	<b>12.69</b>	<b>2</b>		<b>25.38</b>	<b>6.34</b>	<b>6.75</b>	<b>2</b>		<b>13.50</b>	
$\frac{1}{2}L$ " ...	<b>51.34</b>	<b>4</b>		<b>205.36</b>	<b>26.34</b>	<b>26.75</b>	<b>4</b>		<b>107.00</b>	Mean actual sheer forward =
F.P. ...	<b>115.39</b>	<b>1</b>		<b>115.39</b>	<b>62</b>	<b>62.00</b>	<b>1</b>		<b>62.00</b>	Mean standard sheer forward =
Total ...				<b>519.20</b>					<b>321.00</b>	Length of enclosed superstructure forward of amidships =
										.. aft of .. =

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{198.20}{18} (.75 - \frac{15.48}{2L}) = +6.55"$   
 If limited on account of midship superstructure. **✓**  $.5952$  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 = <b>36.07</b> Summer freeboard = <b>8.04</b> Moulded draught (d) = <b>28.03</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>7"</b> Addition for Winter North Atlantic Freeboard (if required) = <b>7.01 + 4.77 = 11.78 = 11.34"</b>	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ <b>19556</b> Tons per inch immersion at summer load water line $T =$ <b>65.2</b> Deduction = $\frac{\Delta}{40T}$ inches = <b>7.50</b> <b>= 7.12"</b>	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient <b>.757 + .68 = 1.437 / 1.36</b> <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td><b>12.81</b></td> <td><b>-</b></td> </tr> <tr> <td>Deduction for superstructures</td> <td><b>-</b></td> <td><b>9.23</b></td> </tr> <tr> <td>Sheer correction</td> <td><b>6.55</b></td> <td><b>-</b></td> </tr> <tr> <td>Round of Beam correction</td> <td><b>-</b></td> <td><b>.12</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.</td> <td><b>-</b></td> <td><b>-</b></td> </tr> <tr> <td></td> <td><b>19.36</b></td> <td><b>9.35</b></td> </tr> </table> Summer Freeboard = <b>96.59</b>		+	-	Depth Correction	<b>12.81</b>	<b>-</b>	Deduction for superstructures	<b>-</b>	<b>9.23</b>	Sheer correction	<b>6.55</b>	<b>-</b>	Round of Beam correction	<b>-</b>	<b>.12</b>	Correction for Thickness of Deck amidships	<b>-</b>	<b>-</b>	Other corrections, scantlings, etc.	<b>-</b>	<b>-</b>		<b>19.36</b>	<b>9.35</b>
	+	-																								
Depth Correction	<b>12.81</b>	<b>-</b>																								
Deduction for superstructures	<b>-</b>	<b>9.23</b>																								
Sheer correction	<b>6.55</b>	<b>-</b>																								
Round of Beam correction	<b>-</b>	<b>.12</b>																								
Correction for Thickness of Deck amidships	<b>-</b>	<b>-</b>																								
Other corrections, scantlings, etc.	<b>-</b>	<b>-</b>																								
	<b>19.36</b>	<b>9.35</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>14.12"</b>
Fresh Water Line	<b>7.12"</b>
Tropical Line	<b>2"</b>
Winter Line below	<b>7"</b>
Winter North Atlantic Line	<b>11.34"</b>

Tropical Fresh Water Freeboard	<b>6'-10"</b>
Fresh Water	<b>7'-5"</b>
Tropical	<b>7'-5 1/2"</b>
Winter	<b>8'-7 1/2"</b>
Winter North Atlantic	<b>9'-0 1/4"</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.

Actual displacement at 28'3" draft = 19547 tons  
Ton Per Inch = 65.2

over

Trade of ship ✓

Names of sister ships S.S. Empire Asman Sld. Rpt. No. 33284.

Builder's name and yard number Messrs. Sir James Laing & Son Ltd No. 740.

Owners Ministry of War Transport.

Fee £ 20.

Will be charged on completion



© 2020

Lloyd's Register  
Foundation