

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>AMPLEFORTH</b> <b>EX-EMPIRE MALLORY</b>	Official Number <b>168684</b>	Nationality and Port of Registry <b>BRITISH</b> <b>CARDIFF</b>	Gross Tonnage <b>1941</b>	Date of Build <b>1941</b>	Port of Survey <b>CARDIFF</b>
Moulded Dimensions: Length <b>401.0</b> Breadth <b>54.5'</b> Depth <b>27.67</b>					Date of Survey <b>3/46</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>11,031</b> tons					Surveyor's Signature <b>J. W. THURSTON</b>
Coefficient of fineness for use with Tables <b>.751</b>					Particulars of Classification <b>+100A1 WITH FBD</b>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. <b>27.67</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>(27.70 - 26.73) 3.0 = 2.91</b>	Moulded Breadth (B) = <b>54.5</b>
Stringer plate ... .. <b>.03</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>✓</b>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{54.5 \times 12}{50} = \mathbf{13.08}$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures <b>✓</b>	Ship's Round of Beam = <b>13.00</b>
Depth for Freeboard (D) = <b>27.70</b>		Difference = <b>.08</b>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.08}{4} \times .0056 = \mathbf{.0014}$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..	<b>34.75</b>	<b>34.75</b>	<b>8'-10"</b>	<b>✓</b>	<b>34.75</b>
„ overhang ... ..					
R.Q.D. enclosed ... ..					
„ overhang ... ..					
Bridge enclosed ... ..	<b>361.75</b>	<b>361.75</b>	<b>8'-10"</b>	<b>✓</b>	<b>361.75</b>
„ overhang aft ... ..					
„ overhang forward ... ..					
Fore enclosed ... ..					
„ overhang ... ..					
Trunk aft ... ..					
„ forward ... ..					
Tonnage opening aft ... ..	<b>4.50</b>	<b>2.25</b>	<b>8'-10"</b>	<b>✓</b>	<b>2.25</b>
„ „ forward ... ..					
Total ... ..	<b>401.00</b>	<b>398.75</b>			<b>398.75</b>

Standard Height of Superstructure **7.5**

„ „ R.Q.D. **-**

Deduction for complete superstructure **42.0**

Percentage covered  $\frac{S}{L} = \frac{398.75}{401.00} = \mathbf{99.44\%}$

Percentage from Table, Line A. **99.31**  
(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 =  $42.0 \times .9931 = \mathbf{41.71}$

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<b>50.10</b>	<b>1</b>		<b>50.10</b>	<b>54.00</b>	<b>70.00</b>	<b>1</b>		<b>70.00</b>
$\frac{1}{8}L$ from A.P. ... ..	<b>22.295</b>	<b>4</b>		<b>89.18</b>	<b>27.50</b>	<b>31.15</b>	<b>4</b>		<b>124.60</b>
$\frac{3}{8}L$ „ ... ..	<b>5.51</b>	<b>2</b>		<b>11.02</b>	<b>7.25</b>	<b>7.70</b>	<b>2</b>		<b>15.40</b>
Amidships ... ..	<b>-</b>	<b>4</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>4</b>		<b>-</b>
$\frac{5}{8}L$ from F.P. ... ..	<b>11.02</b>	<b>2</b>		<b>22.04</b>	<b>13.50</b>	<b>14.96</b>	<b>2</b>		<b>29.92</b>
$\frac{7}{8}L$ „ ... ..	<b>44.59</b>	<b>4</b>		<b>178.36</b>	<b>54.00</b>	<b>60.52</b>	<b>4</b>		<b>242.08</b>
F.P. ... ..	<b>100.20</b>	<b>1</b>		<b>100.20</b>	<b>120.00</b>	<b>136.00</b>	<b>1</b>		<b>136.00</b>
Total ... ..				<b>450.90</b>	<b>+16</b>				<b>618.00</b>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{167.10}{18} \left( .75 - .50 \right) = \mathbf{2.32}$

If limited on account of midship superstructure. **✓**

Actual ht superst. **8'-10"**  
Standard „ „ **7-6**  
**1-4 = 16"**

Mean actual sheer aft  
Mean standard sheer aft = **Excess**

Mean actual sheer forward  
Mean standard sheer forward = **Excess**

Length of enclosed superstructure forward of amidships = **L**

„ „ aft of „ = **C.S.S.**

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **27.70**

Summer freeboard = **2.87**

Moulded draught (d) = **24.83**

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = **6.21 = 6 1/4**

Addition for Winter North Atlantic Freeboard (if required) = **✓**

## Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta = \mathbf{11,804}$

Tons per inch immersion at summer load water line  
 $T = \mathbf{43.70}$

Deduction =  $\frac{\Delta}{40 T}$  inches  
**= 6.75**  
**= 6 3/4**

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

Correction for coefficient  $\frac{.751 + .68}{1.36} = \frac{1.431}{1.36}$

	+	-
Depth Correction ... ..	<b>2.91</b>	<b>-</b>
Deduction for superstructures ... ..	<b>-</b>	<b>41.71</b>
Sheer correction ... ..	<b>-</b>	<b>2.32</b>
Round of Beam correction ... ..	<b>-</b>	<b>-</b>
Correction for Thickness of Deck amidships ... ..	<b>-</b>	<b>-</b>
Other corrections, scantlings, etc. ... ..	<b>-</b>	<b>-</b>
	<b>2.91</b>	<b>44.03</b>

Summer Freeboard = **34.44**

## 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"</b>	Tropical Fresh Water Freeboard ... ..	<b>2'-10 1/2"</b>
Fresh Water Line „ „ ... ..	<b>6 3/4"</b>	Fresh Water „ „ ... ..	<b>1'-9 1/2"</b>
Tropical Line „ „ ... ..	<b>6 1/4"</b>	Tropical „ „ ... ..	<b>2'-3 3/4"</b>
Winter Line below „ „ ... ..	<b>6 1/4"</b>	Winter „ „ ... ..	<b>2'-4 1/4"</b>
Winter North Atlantic Line „ „ ... ..	<b>-</b>	Winter North Atlantic „ „ ... ..	<b>3'-4 3/4"</b>