

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>AMBERTON</b> <b>EX. EMPIRE RIVAL.</b>	Official Number <b>168961</b>	Nationality and Port of Registry <b>BRITISH</b> <b>WEST HARTLEPOOL.</b>	Gross Tonnage <b>5230</b> M.O.T. 4.2.53.	Date of Build <b>1943.</b>	Port of Survey
Moulded Dimensions: Length <b>426.94</b> Breadth <b>56.00</b> Depth <b>28.67</b> <i>To centre of Rudder Stock</i>				Date of Survey <b>14.1.49.</b>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>12532.</b> ✓ tons				Surveyor's Signature	
Coefficient of fineness for use with Tables <b>.755.</b>				Particulars of Classification <b>+100 A1.</b> <b>with freeboard.</b>	

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <b>28.67</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>(28.70-28.40) 3 = +0.90"</b> ✓	Moulded Breadth (B) <b>56.00</b>
Stringer plate ... <b>.38</b> ... <b>.03</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{56 \times 12}{50} = 13.44$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Ship's Round of Beam = <b>14.00</b> ✓
Depth for Freeboard (D) = <b>28.70</b>		Difference <b>.56</b>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.56}{4} \times .0060 = \text{Nil.}$

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<b>33.85</b>	<b>33.85</b>	<b>9.0</b>	✓	<b>33.85</b>
" overhang ...	<b>.25</b>	<b>.12</b>			<b>.12</b>
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<b>386.92</b>	<b>386.92</b>	<b>9.0</b>	✓	<b>386.92</b>
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...		<b>120 DIFF</b>			
Tonnage opening aft ...	<b>4.92</b>	<b>2.52</b>			<b>2.52</b>
" " forward ...					
Total ...	<b>425.94</b>	<b>423.41</b>			<b>423.41</b>

Standard Height of Superstructure **7.50**

" " R.Q.D. ✓

Deduction for complete superstructure **42.00**

Percentage covered  $\frac{S}{L} = 100$  ✓

" "  $\frac{S_1}{L} = \left. \begin{matrix} 99.40 \\ 99.26 \end{matrix} \right\}$

Percentage from Table, Line A. & B **99.26.**  
(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 = **42.00 x .9926 = 41.69**

### SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<b>52.59</b>	1	<b>52.59</b>	<b>31.00</b>	<b>49.00</b>	1	<b>49.00</b>
$\frac{1}{2}$ L from A.P. ...	<b>23.40</b>	4	<b>93.60</b>	-	<b>18.00</b>	4	<b>72.00</b>
$\frac{3}{8}$ L " ...	<b>5.785</b>	2	<b>11.57</b>	-	<b>5.39</b>	2	<b>10.78</b>
Amidships ...	-	4	-	-	-	4	-
$\frac{3}{8}$ L from F.P. ...	<b>11.57</b>	2	<b>23.14</b>	-	<b>10.89</b>	2	<b>21.78</b>
$\frac{1}{2}$ L " ...	<b>46.81</b>	4	<b>187.24</b>	<b>6.0</b>	<b>24.00</b>	4	<b>96.00</b>
F.P. ...	<b>105.19</b>	1	<b>105.11</b>	<b>81.0</b>	<b>99.00</b>	1	<b>99.00</b>
Total ...			<b>473.25</b>	<b>+18.0</b>			<b>348.56</b>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{124.69}{18} \times .25 = +1.73"$

If limited on account of midship superstructure. ✓

Actual Sheer **9.0**

Standard " " " **7.50**

Mean actual sheer aft = **Deficient**

Mean standard sheer aft = **18"**

Mean actual sheer forward = **Deficient**

Mean standard sheer forward = **Deficient**

Length of enclosed superstructure forward of amidships = **3 C.S.S.**

" " aft of " = **3 C.S.S.**

### Deduction for Tropical Freeboard.

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

Depth to Freeboard Deck = **28.70**

Summer freeboard = **3.75**

Moulded draught (d) = **24.95**

### Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = **6.24 = 6 $\frac{1}{4}$ "**

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

### Deduction for Fresh Water.

Displacement in salt water at summer load water line  $\Delta = 13016$  ✓

Tons per inch immersion at summer load water line  $T = 48.55$

Deduction =  $\frac{\Delta}{40 T}$  inches = **6.70**

= **6 $\frac{3}{4}$ "** ✓

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

Correction for coefficient  $\frac{.755 + .68}{1.36} = \frac{1.435}{1.36}$

Depth Correction ... **.90**

Deduction for superstructures ... **41.69**

Sheer correction ... **1.73**

Round of Beam correction ... **-**

Correction for Thickness of Deck amidships ... **-**

Other corrections, scantlings, etc. ... **-**

	+	-
Depth Correction	<b>.90</b>	<b>-</b>
Deduction for superstructures	<b>-</b>	<b>41.69</b>
Sheer correction	<b>1.73</b>	<b>-</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>2.63</b>	<b>41.69</b>
Summer Freeboard	<b>44.98</b>	

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

Tropical Fresh Water Line above Centre of Disc ... **13"**

Fresh Water Line " " ... **6 $\frac{3}{4}$ "**

Tropical Line " " ... **6 $\frac{1}{4}$ "**

Winter Line below " " ... **6 $\frac{1}{4}$ "**

Winter North Atlantic Line " " ... **-**

Tropical Fresh Water Freeboard ... **21.9"**

Fresh Water " " ... **31.24"**

Tropical " " ... **31.24"**

Winter " " ... **41.34"**

Winter North Atlantic " " ... **-**