

2ND AMENDED.

Rpt. C.11 (Comp.).

Index No. 39780  
(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>BRITISH ENDEAVOUR.</b>	Official Number	Nationality and Port of Registry <b>BRITISH. LONDON.</b>	Gross Tonnage	Date of Build <b>1948.</b>	Port of Survey
Moulded Dimensions: Length <b>463.46</b> Breadth <b>61.75</b> Depth <b>34.08</b> <i>To centre of Rudder Stock</i>					Date of Survey <b>11.1.49.</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>18170</b> tons					Surveyor's Signature <i>[Signature]</i>
Coefficient of fineness for use with Tables <b>.767.</b>					Particulars of Classification <b>+100 A1.</b> <i>(Contemplated) Carrying Petroleum in Bulk.</i>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. <b>34.08</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>(34.14-30.89)3 = +9.75"</b> <b>3.25</b>	Moulded Breadth (B) <b>61.75</b>
Stringer plate ... <b>.72</b> ... .. <b>.06</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>✓</b>	Standard Round of Beam = $\frac{B \times 12}{50} = 14.82$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures <b>✓</b>	Ship's Round of Beam = <b>15.50</b>
Depth for Freeboard (D) = <b>34.14</b>		Difference <b>+ .68</b>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.68}{4} \times .5834 = -.10"$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed <i>Equival</i> ...	<b>96.55</b>	<b>96.55</b>	<b>8.0</b>	<b>✓</b>	<b>96.55</b>
" overhang ...	<b>1.33</b>	<b>.67</b>			<b>.67</b>
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed <i>Equival</i> ...	<b>42.67</b>	<b>42.67</b>	<b>8.0</b>	<b>✓</b>	<b>42.67</b>
" overhang aft ...	<b>3.50</b>	<b>2.63</b>			<b>2.63</b>
" overhang forward ...	<b>0.83</b>	<b>.42</b>			<b>.42</b>
Fore enclosed <i>Equival</i> ...	<b>50.18</b>	<b>50.14</b>	<b>8.0</b>	<b>✓</b>	<b>50.14</b>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	<b>195.06</b>	<b>193.08</b>			<b>193.08</b>

Standard Height of Superstructure <b>7.50</b>	
" " R.Q.D. <b>✓</b>	
Deduction for complete superstructure <b>42.00</b>	
Percentage covered $\frac{S}{L} = 42.09$	
" " $\frac{S_1}{L} =$	<b>41.66</b>
" " $\frac{E}{L} =$	
Percentage from Table, Line A, Tanker <b>32.66</b>	
(corrected for absence of forecastle (if required))	
Percentage from Table, Line B. <b>✓</b>	
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required) <b>✓</b>	
Deduction = <b>42.00 × .3266 = 13.72.</b>	

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	56.35	1	56.35	62.00	56.35	1	56.35
$\frac{1}{2}$ L from A.P. ...	25.075	4	100.30	24.80	25.075	4	100.30
$\frac{3}{4}$ L       "       ...	6.198	2	12.39	6.20	6.198	2	12.39
Amidships ...	—	4	—	—	—	4	—
$\frac{3}{4}$ L from F.P. ...	12.39	2	24.78	12.30	12.30	2	24.60
$\frac{1}{2}$ L       "       ...	50.15	4	200.60	49.30	49.80	4	197.20
F.P. ...	112.69	1	112.69	111.25	111.25	1	111.25
Total ...			507.11				502.09

Mean actual sheer aft = **Excess**  
Mean standard sheer aftMean actual sheer forward = **Deficient**  
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = **Tanker.**  
aft of " =

*Sheer forward.*

<b>112.69</b>	<b>1</b>	<b>112.69</b>	<b>111.25</b>	<b>1</b>	<b>111.25</b>
<b>50.15</b>	<b>4</b>	<b>200.60</b>	<b>49.80</b>	<b>4</b>	<b>197.20</b>
<b>12.39</b>	<b>2</b>	<b>24.78</b>	<b>12.30</b>	<b>2</b>	<b>24.60</b>
<b>6.198</b>	<b>2</b>	<b>12.39</b>	<b>6.20</b>	<b>2</b>	<b>12.39</b>
<b>25.075</b>	<b>4</b>	<b>100.30</b>	<b>24.80</b>	<b>4</b>	<b>100.30</b>
<b>56.35</b>	<b>1</b>	<b>56.35</b>	<b>62.00</b>	<b>1</b>	<b>56.35</b>
<b>507.11</b>		<b>507.11</b>	<b>502.09</b>		<b>502.09</b>

**296.05 = .986.**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{5.02}{18} (.75 - .2104) = +0.15"$   
If limited on account of midship superstructure. **✓**

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 = **34.14**  
Summer freeboard = **6.65**  
Moulded draught (d) = **27.49**  
Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = **6.87 = 6 $\frac{3}{4}$**   
Addition for Winter North Atlantic Freeboard (if required) = **6.87 + 4.63 = 11.50 = 11 $\frac{1}{2}$ "**

## Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta = 17326$   
Tons per inch immersion at summer load water line  
 $T = 58.43$   
Deduction =  $\frac{\Delta}{40 T}$  inches = **7.41"**  
**= 7 $\frac{1}{2}$ "**

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

Correction for coefficient

Depth Correction ... .. **9.75**  
Deduction for superstructures ... .. **- 13.72**  
Sheer correction ... .. **.15**  
Round of Beam correction ... .. **- .10**  
Correction for Thickness of Deck amidships ... .. **-**  
Other corrections, scantlings, etc. ... .. **-**

+	-
<b>9.90</b>	<b>13.82</b>
<b>13.82</b>	<b>- 3.92</b>

Summer Freeboard = **79.68**

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

**1949**  
Tropical Fresh Water Line above Centre of Disc ... **14 $\frac{1}{4}$ "**  
Fresh Water Line " " ... **7 $\frac{1}{2}$ "**  
Tropical Line " " ... **6 $\frac{3}{4}$ "**  
Winter Line below " " ... **6 $\frac{3}{4}$ "**  
Winter North Atlantic Line " " ... **11 $\frac{1}{2}$ "**

Tropical Fresh Water Freeboard ... .. **5 $\frac{1}{2}$ "**  
Fresh Water " " ... .. **6 $\frac{1}{4}$ "**  
Tropical " " ... .. **6 $\frac{1}{4}$ "**  
Winter " " ... .. **7 $\frac{1}{2}$ "**  
Winter North Atlantic " " ... .. **7 $\frac{1}{4}$ "**



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.

$$\begin{array}{r} \text{Poop :- Length at side} \therefore 93.375' \\ \frac{2}{3} \times 4.75 \quad \frac{3.17'}{96.545'} \end{array}$$

$$\begin{array}{r} \text{Equivalent Chang} = 4.50 - 3.17 \\ = 1.33' \end{array}$$

$$\begin{array}{r} \text{Bridge Length at Side} = 40.00' \\ \frac{2}{3} \times 4.0 \quad = \frac{2.67}{42.67} \end{array}$$

$$\begin{array}{r} \text{Forward Chang} = 3.50 - 2.67 \\ = 0.83' \end{array}$$

Forecastle:-

$$\text{Length forward of passage} = 24.21'$$

$$\text{Length at side of passage} \frac{18.00 \times 17.05}{20.05} = 15.31'$$

$$\begin{array}{r} \text{Passage } (18.00 - 15.31) \times .986 \\ 2.69 \end{array} = 2.65'$$

$$\text{Sidehouses} \frac{13.50 \times 14.42}{24.42} = 7.97'$$

$$\text{Equivalent incl. length} = 50.14'$$

$$\begin{array}{r} \text{Equivalent covered length} = 24.21 \\ 18.00 \\ 7.97 \\ \hline 50.18' \end{array}$$

Trade of ship .....

Names of sister ships .....

Builder's name and yard number .....

Owners .....

Fee £ .....



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