

28 JUN 1945

Index. No. 38000  
(For London Office only).

No. 18662

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>EMPIRE EDDYSTONE</b>	Official Number <b>180084</b>	Nationality and Port of Registry <b>British</b> <b>West Hatterpool</b>	Gross Tonnage <b>7318</b>	Date of Build <b>1945</b>	Port of Survey <b>West Hatterpool</b>
Moulded Dimensions: Length <b>425'-0"</b> Breadth <b>56'-0"</b> Depth <b>38'-0.05"</b> Length to 50' of Rudder <b>425'-9 1/4"</b> Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>17158</b> tons				Date of Survey <b>June 1945</b>	
Coefficient of fineness for use with Tables <b>.779</b>				Surveyor's Signature <b>N.D. Johnston</b>	
				Particulars of Classification <b>+100 A1</b> <b>with freeboard.</b>	

Depth for Freeboard (D).	Depth correction.	Round of Beam correction. (See over)
Moulded depth ... <b>38'-05"</b>	(a) Where D is greater than Table depth (D - Table depth) R = <b>(38-11-2838) x 3 = + 29.19</b> <b>9.73</b>	Moulded Breadth (B) <b>56</b>
Stringer plate ... <b>.40</b> ... <b>06</b>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>13.44</b>
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam (upper deck) = <b>14'-26 equivalent</b>
Depth for Freeboard (D) = <b>38'-06"</b>		Difference
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) =$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height <i>steel 18 steel</i>	Height Correction	Effective Length (E)
Poop enclosed <b>6.00 of steel</b>	<b>35.27</b>		<b>3'-0"</b>		
" overhang ...					
R.Q.D. enclosed		<b>35.27</b>	<b>✓</b>	<b>x 3/6</b>	<b>17.63</b>
" overhang ...					
Bridge enclosed...					
" overhang aft ...					
" overhang forward					
F'cle enclosed ...	<b>34.25</b>	<b>34.25</b>	<b>7'-0"</b>	<b>x 7/7.5</b>	<b>31.96</b>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	<b>69.52</b>	<b>69.52</b>			<b>49.59</b>

Standard Height of Superstructure	<b>7.5</b>
" " R.Q.D.	<b>6.0</b>
Deduction for complete superstructure	<b>42</b>
Percentage covered $\frac{S}{L} =$	<b>16.33</b>
" " $\frac{S_1}{L} =$	<b>11.65</b>
" " $\frac{E}{L} =$	<b>5.82</b>
Percentage from Table, Line A.	<b>5.82</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)	
Deduction = <b>42 x .0582 = -2.44</b>	

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate <i>inches</i>	Effective Ordinate	S M	Product
A.P. ...	<b>52.58</b>	<b>1</b>	<b>52.58</b>	<b>9.25</b>	<b>9.25</b>	<b>1</b>	<b>9.25</b>
1/2 L from A.P. ...	<b>23.40</b>	<b>4</b>	<b>93.60</b>	<b>.19</b>	<b>.19</b>	<b>4</b>	<b>.76</b>
2/3 L " ...	<b>5.78</b>	<b>2</b>	<b>11.56</b>	<b>0</b>	<b>-</b>	<b>2</b>	<b>-</b>
Amidships ...	<b>-</b>	<b>4</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>4</b>	<b>-</b>
2/3 L from F.P. ...	<b>11.57</b>	<b>2</b>	<b>23.14</b>	<b>0</b>	<b>-</b>	<b>2</b>	<b>-</b>
1/2 L " ...	<b>46.80</b>	<b>4</b>	<b>187.20</b>	<b>5.50</b>	<b>5.50</b>	<b>4</b>	<b>22.00</b>
F.P. ...	<b>105.16</b>	<b>1</b>	<b>105.16</b>	<b>79.50</b>	<b>79.50</b>	<b>1</b>	<b>79.50</b>
Total ...			<b>473.24</b>				<b>111.51</b>

Mean actual sheer aft =  
Mean standard sheer aft =Mean actual sheer forward =  
Mean standard sheer forward =Length of enclosed superstructure forward of amidships =  
L

" " aft of " =

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( 75 - \frac{S}{2L} \right) = \frac{361.73 \cdot (75 - .0816)}{18} = +13.43$   
If limited on account of midship superstructure. If limited to maximum allowance of 1 1/2 ins. per 100 ft.

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **38'-11"**  
Summer freeboard = **11'-4 1/2"**  
Moulded draught (d) = **26'-09"**

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = **6'-67 = 6 3/4**

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

## Deduction for Fresh Water.

Displacement in salt water, at summer load water line **26'-9"** $\Delta = 13838$ Tons per inch immersion, at summer load water line **26'-9"** $T = 49.84$ Deduction =  $\frac{\Delta}{40 T}$  inches= **6.94 = 7"**M.L.D.  $\Delta$  at **26'-7 1/2"** M.L.D. = **13756**" T.P.1 " " = **48.88**

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

Correction for coefficient  $\frac{.779 + .68}{1.36} =$ Depth Correction ...
| Deduction for superstructures ... |
| Sheer correction ... |
| Round of Beam correction ... |
| Correction for Thickness of Deck amidships ... |
| Other corrections, scantlings, etc. ... |
| Summer Freeboard = **137'-00"** |
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Water~~, Steel, Deck :-Tropical Fresh Water Line above Centre of Disc ...
| Fresh Water Line " " ... |
| Tropical Line " " ... |
| Winter Line below " " ... |
| Winter North Atlantic Line " " ... |
Tropical Fresh Water Freeboard ...
| Fresh Water " " ... |
| Tropical " " ... |
| Winter " " ... |
| Winter North Atlantic " " ... |

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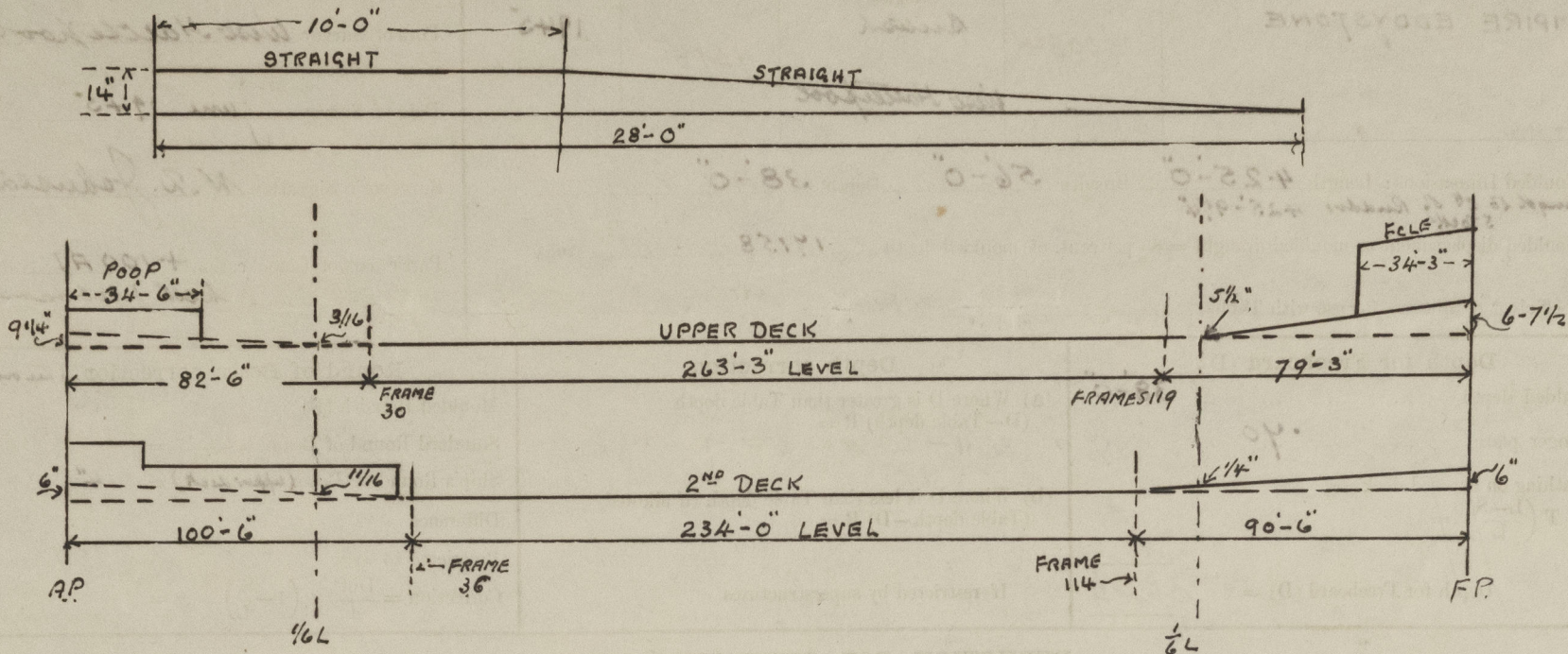
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# "EMPIRE EDDYSTONE"

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.

## UPPER DECK ROUND OF BEAM



Equivalent Camber

$$\text{Area} = (20 + 18) \times \frac{14}{12}$$

$$\text{Mean height} = \frac{(20 + 18) \times 14}{12 \times 58} = .772$$

$$\therefore \text{equivalent camber} = \frac{3}{2} \times .772 \times 12 = 14.26$$

All plans already in London Office

Trade of ship Ocean going

Names of sister ships EMPIRE TAKORADI

Builder's name and yard number William Gray & Co No 1176

Owners Ministry of War Transport

Fee £ 18-0-0

D.



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