

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>EMPIRE CELTIC</b> (Ex LST 3512)	Official Number <b>181539</b>	Nationality and Port of Registry <b>British</b> <b>London</b>	Gross Tonnage <b>4291</b>	Date of Build	Port of Survey <b>London</b>
Moulded Dimensions: Length <b>323.25</b> Breadth <b>54.0</b> Depth <b>27.0</b>					Date of Survey <b>5th Dec. 1946</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth					Surveyor's Signature <b>C. Lloyd Roberts</b>
Coefficient of fineness for use with Tables <b>.91 assumed</b>					Particulars of Classification <b>+ A -</b> <i>with freeboard for Service UK &amp; Line (excluding W. Coast of Ireland) also to and in the Baltic &amp; Mediterranean</i>

<b>Depth for Freeboard (D).</b> Moulded depth ... <b>27.00</b> Stringer plate ... <b>.03</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ Depth for Freeboard (D) = <b>27.03</b>	<b>Depth correction.</b> (a) Where D is greater than Table depth (D-Table depth) R = $(27.03 - 21.55) 2486 \div + 13.62$ (b) Where D is less than Table depth (if allowed) (Table depth-D) R = <input checked="" type="checkbox"/> If restricted by superstructures <input checked="" type="checkbox"/>	<b>Round of Beam correction.</b> Moulded Breadth (B) <b>54.0</b> Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>12.96</b> Ship's Round of Beam = <b>Nil</b> Difference <b>12.96</b> Restricted to Correction = $\frac{\text{Diff.}}{4} \times \left( 1 - \frac{S_i}{L} \right) = \frac{12.96}{4} \div + 3.24$
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### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>i</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
.. overhang ...					
R.Q.D. enclosed ...					
.. overhang ...					
Bridge enclosed ...					
.. overhang aft ...					
.. overhang forward ...					
F'cle enclosed ...					
.. overhang ...					
Trunk aft ...					
.. forward ...					
Tonnage opening aft ...					
.. forward ...					
Total ...					

*Flush Deck*

Standard Height of Superstructure \_\_\_\_\_

.. .. R.Q.D. \_\_\_\_\_

Deduction for complete superstructure \_\_\_\_\_

Percentage covered  $\frac{S}{L} =$  \_\_\_\_\_

.. ..  $\frac{S_i}{L} =$  \_\_\_\_\_

.. ..  $\frac{E}{L} =$  \_\_\_\_\_

Percentage from Table, Line A.  
(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 = **Nil**

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	43.325	1		43.32	27.34	27.34	1		27.34
1/4 L from A.P. ...	18.835	4		75.34	13.29	13.29	4		53.16
1/2 L " ...	4.655	2		9.31	-	-	2		-
Amidships ...	-	4		-	-	-	4		-
3/4 L from F.P. ...	9.31	2		18.62	-	-	2		-
1/4 L " ...	37.67	4		150.68	-	-	4		-
F.P. ...	84.65	1		84.65	35.42	35.42	1		35.42
Total ...				380.92					115.92

Mean actual sheer aft = \_\_\_\_\_

Mean standard sheer aft = \_\_\_\_\_

Mean actual sheer forward = \_\_\_\_\_

Mean standard sheer forward = \_\_\_\_\_

Length of enclosed superstructure forward of amidships = \_\_\_\_\_

.. .. aft of .. = \_\_\_\_\_

*Deficient*

*Deficient Sheer*

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{265.0}{18} \div 75 = + 11.04$

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 = **27.03**  
Summer freeboard = **16.52**  
Moulded draught (d) = **10.51**

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = **2.63**  $2 \frac{3}{4}$

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

Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta =$  **4500**  
Tons per inch immersion at summer load water line  
T = \_\_\_\_\_

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

$\frac{d}{4} = 2 \frac{3}{4}$

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

Correction for coefficient  $\frac{91+68}{1.36} = \frac{1.59}{1.36}$

Depth Correction ... **13.62**  
Deduction for superstructures ... **-**  
Sheer correction ... **11.04**  
Round of Beam correction ... **3.24**  
Correction for Thickness of Deck amidships ... **-**  
Other corrections, scantlings, etc. to conform with summer moulded draught of **10'-6" (10'-6 1/8" actual)**  
**107.10**  
**135.00**  
Summer Freeboard = **198.25**

**SUMMER FREEBOARD** amidships from Centre of Disc to top of Deck Line, **Wood, Steel, Deck** :- **16'-6 1/4"**

Tropical Fresh Water Line above Centre of Disc **NOT ASSIGNED**  
Fresh Water Line " " **2 3/4"**  
Tropical Line " " **NOT ASSIGNED**  
Winter Line below " " **2 3/4"**  
Winter North Atlantic Line " " **NOT ASSIGNED**

Tropical Fresh Water Freeboard ... **NOT ASSIGNED**  
Fresh Water " " **16'-3 1/2"**  
Tropical " " **NOT ASSIGNED**  
Winter " " **16'-9"**  
Winter North Atlantic " " **NOT ASSIGNED**



A 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.

Trade of ship

Empire Cedric, Empire Baltic

Builder's name and yard number.

### Owners

15 : 0 : 0 (af 17 DEC 1966)