

Job 1858 24 SEP 1942

Rpt. C.11 (Comp.).

EMPIRE LINDEN 36726

Index No. 36982  
(For London Office only).

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER.~~)

Ship's Name <b>"EMPIRE TITAN"</b>	Official Number <b>167132</b>	Nationality and Port of Registry <b>BRITISH</b> <b>HULL.</b>	Gross Tonnage <b>242.33.</b>	Date of Build <b>1942</b>	Port of Survey <b>HULL.</b>
Moulded Dimensions: Length <b>105'-0"</b> Breadth <b>26'-6"</b> Depth <b>13'-6"</b>					Date of Survey <b>WHILE BUILDING.</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>523.</b> tons T.P.I. <b>5.35</b>					Surveyor's Signature <i>J. Macleod</i>
Coefficient of fineness for use with Tables <b>.68</b> ( <b>.573 ACTUAL</b> )					Particulars of Classification <b>* 100 A.F.</b> <b>"FOR TOWING SERVICES"</b> <b>(CONTEMPLATED).</b>

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth	<b>13'-5"</b>	(a) Where D is greater than Table depth (D - Table depth) R =	<b>(13.53 - 7.00) .808 = +5.28</b>	Moulded Breadth (B)	<b>26'-5"</b>
Stringer plate	<b>-36"</b>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	<b>6.53</b>	Standard Round of Beam = $\frac{B \times 12}{50}$	<b>6.36</b>
Sheathing on exposed deck	<b>.03</b>	If restricted by superstructures	<b>✓</b>	Ship's Round of Beam =	<b>7.2"</b>
$T \left( \frac{L-S}{L} \right) =$	<b>✓</b>			Difference	<b>1.14"</b>
Depth for Freeboard (D) =	<b>13.53</b>			Restricted to	<b>✓</b>
				Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	<b>= <math>\frac{1.14}{4} = .285</math></b>

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
POOP enclosed ...					
.. overhang ...					
R.Q.D. enclosed ...					
.. overhang ...					
Bridge enclosed ...					
.. overhang aft ...					
.. overhang forward ...					
Fore 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  $\frac{S}{L} =$  **NIL**

.. ..  $\frac{S_1}{L} =$  **NIL**

.. ..  $\frac{E}{L} =$  **NIL**

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. ...	<b>20.50</b>	1		<b>20.50</b>	<b>18"</b>	<b>18.00</b>	1		<b>18.00</b>
$\frac{1}{2}$ L from A.P. ...	<b>9.12</b>	4		<b>36.48</b>	<b>8"</b>	<b>8.00</b>	4		<b>32.00</b>
$\frac{2}{3}$ L ..	<b>2.255</b>	2		<b>4.51</b>	<b>13 1/2"</b>	<b>1.75</b>	2		<b>3.50</b>
Amidships ...	-	4		-	<b>0</b>	-	4		-
$\frac{2}{3}$ L from F.P. ...	<b>4.51</b>	2		<b>9.02</b>	<b>9 1/4"</b>	<b>9.75</b>	2		<b>19.50</b>
$\frac{1}{2}$ L ..	<b>18.24</b>	4		<b>72.96</b>	<b>35 1/2"</b>	<b>35.50</b>	4		<b>142.00</b>
F.P. ...	<b>41.00</b>	1		<b>41.00</b>	<b>81 1/2"</b>	<b>81.50</b>	1		<b>81.50</b>
Total ...				<b>184.47</b>					<b>296.50</b>

Mean actual sheer aft = **DEFICIENT. > .75**

Mean standard sheer aft

Mean actual sheer forward = **EXCESS**

Mean standard sheer forward

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

.. .. aft of .. = **NIL**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{112.03}{18} \times .75 = -4.67$

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

If limited to maximum allowance of 1 1/2 ins. per 100 ft. **1.58** ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	<b>12.08</b>
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient	<b>12.08</b>
Depth to Freeboard Deck = <b>13.53</b>	$\Delta =$ <b>585</b>		
Summer freeboard = <b>1.29</b>	Tons per inch immersion at summer load water line	Depth Correction	<b>5.28</b>
Moulded draught (d) = <b>12.24</b>	$T =$ <b>5.47</b>	Deduction for superstructures	<b>-</b>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>3.06 = 3"</b>	Deduction = $\frac{\Delta}{40T}$ inches = <b>2.67 = 2 3/4"</b>	Sheer correction	<b>- 1.58</b>
Addition for Winter North Atlantic Freeboard (if required) = <b>5"</b>	MOL. DISP. <b>595</b> T.P.I. <b>5.5</b>	Round of Beam correction	<b>- 2.28</b>
	11.6 <b>529.4</b> T.P.I. <b>5.35</b>	Correction for Thickness of Deck amidships	<b>-</b>
	9.6 <b>407.</b> T.P.I. <b>4.90</b>	Other corrections, scantlings, etc.	<b>-</b>
		Summer Freeboard = <b>15.50</b>	

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:		© 2014 Lloyd's Register Foundation	
Tropical Fresh Water Line above Centre of Disc	<b>5 3/4"</b>	Tropical Fresh Water Freeboard	<b>0-9 3/4"</b>
Fresh Water Line	<b>2 3/4"</b>	Fresh Water	<b>1-0 3/4"</b>
Tropical Line	<b>3"</b>	Tropical	<b>1-0 1/2"</b>
Winter Line below	<b>3"</b>	Winter	<b>1-6 1/2"</b>
Winter North Atlantic Line	<b>5"</b>	Winter North Atlantic	<b>1-8 1/2"</b>

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26-9-42

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.

EMPIRE TITAN  
WHITE BUILDING  
1000+  
FOR TOWING SERVICES  
MESSRS HENRY SCARR LTD.  
YARD N° 423  
MINISTRY OF WAR TRANSPORT

*Handwritten signature*

Trade of ship "FOR TOWING SERVICES".  
Names of sister ships "EMPIRE LINDEN".  
Builder's name and yard number MESSRS HENRY SCARR LTD. YARD N° 423.  
Owners MINISTRY OF WAR TRANSPORT.  
Fee £ TO BE CHARGED WITH FIRST ENTRY REPORT.

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