

## Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

No. 18208

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name **EMPIRE MARLOWE** Official Number **168933** Nationality and Port of Registry **BRITISH HONG KONG WEST HARTLEPOOL** Gross Tonnage **6742** Date of Build **1941**

Port of Survey **West Hartlepool**

Date of Survey **Nov. 1941**

Surveyor's Signature **H. J. Crail**

Particulars of Classification **+ 100 A1 with freeboard.**

Moulded Dimensions: Length **414'-5 1/2"** Breadth **56'-6"** Depth **36'-4" to upper deck 27'-10" to second deck**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **15640** tons

Coefficient of fineness for use with Tables **757**

Depth for Freeboard (D). **33**

Moulded depth ... **36'-4"**

Stringer plate ... **80"**

Sheathing on exposed deck  $T \left( \frac{L-S}{L} \right) =$

Depth for Freeboard (D) = **36.40**

Depth correction.

(a) Where D is greater than Table depth  
(D - Table depth) R =  $(36.40 - 27.64) \times 3 = +26.28"$

(b) Where D is less than Table depth (if allowed)  
(Table depth - D) R = **✓**

If restricted by superstructures **✓**

Round of Beam correction.

Moulded Breadth (B) **56'-6"**

Standard Round of Beam =  $\frac{B \times 12}{50} =$  **13.56**

Ship's Round of Beam = **14 1/4"**

Difference **69**

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{69}{4} \times .9219 = -16"$

## 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 ...	✓				
Forecastle enclosed ...	<b>32.4</b>	<b>32.37</b>	<b>7.0</b>	<b>7.0/7.5</b>	<b>30.21</b>
.. overhang ...	✓				
Trunk aft ...	✓				
.. forward ...	✓				
Tonnage opening aft ...	None				
.. forward ...	✓				
Total ...	<b>32.37</b>	<b>32.37</b>			<b>30.21</b>

Standard Height of Superstructure **7.5'**

.. R.Q.D. **✓**

Deduction for complete superstructure **42.00"**

Percentage covered  $\frac{S}{L} =$  **.0781**

..  $\frac{S_1}{L} =$  **.0781**

..  $\frac{E}{L} =$  **.0729**

Percentage from Table, Line A. **3.65**

(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 =  $42 \times .0365 = -1.53'$

## SHEER CORRECTION. Tween deck height amidships = 8'-6"

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	51.45	1		51.45	63.5	63.50	1		63.50
1/2 L from A.P. ...	22.895	4		91.58	28.8	28.80	4		115.20
3/4 L ..	5.66	2		11.32	7.0	7.00	2		14.00
Amidships ...	-	4		-	-	-	4		-
3/4 L from F.P. ...	11.32	2		22.64	15.0	15.00	2		30.00
1/2 L ..	45.79	4		183.16	53.0	53.00	4		212.00
F.P. ...	102.91	1		102.91	109.0	109.00	1		109.00
Total ...				<b>463.06</b>					<b>543.70</b>

Mean actual sheer aft = **Excess.**

Mean standard sheer aft =

Mean actual sheer forward =

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = **Nie.**

.. aft of .. =

Mld draft at 23'-8" mld draft = 11570 tons ✓

Full " " 24'-7" " " = 12130 " ✓

Tons per inch at 24'-7" mld draft = 46 tons. ✓

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{21} \right) = \frac{80.64}{18} (.75 - .0390)$$

If limited on account of midship superstructure. **Yes, no allowance.**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 = **36.40**

Summer freeboard = **10.00**

Moulded draught (d) = **26.40**

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches =  $\frac{26.40}{4} = 6.60 = 6 1/2"$

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

Deduction for Fresh Water.

Displacement in salt water at summer load water line @ 26'-7" full draft.

$\Delta = 13140$  tons.

Tons per inch immersion at summer load water line @ 26'-7" full draft.

$T = 46.5$

Deduction =  $\frac{\Delta}{40T}$  inches =  $\frac{13140}{40 \times 46.5} = 7.06$

= **7"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{757 + 68}{1.36} = 1.437/1.36$

Depth Correction ... **26.28**

Deduction for superstructures ... **1.53**

Sheer correction ... **16**

Round of Beam correction ... **13.27**

Correction for Thickness of Deck amidships ... **13.27**

Other corrections, scantlings, etc. **6.00**

Summer Freeboard = **120.00**

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

Tropical Fresh Water Line above Centre of Disc	13 1/2"
Fresh Water Line	7 1/2"
Tropical Line	6 1/2"
Winter Line below	6 1/2"
Winter North Atlantic Line	✓

Tropical Fresh Water Freeboard	8' - 10 1/2"
Fresh Water	9' - 5"
Tropical	9' - 5 1/2"
Winter	10' - 6 1/2"
Winter North Atlantic	✓



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.

For basis computation see EMPIRE DARWIN.

W. T.

Trade of ship Ocean-going

Names of sister ships "Empire Darwin", "Empire Sunbeam", "Empire Ocean", "Empire Cabot", "Empire Parsons".

Builder's name and yard number Wm Gray & Co. Ltd., No. 1122

Owners Ministry of Shipping

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