

NEWCASTLE-ON-TYNE

EMPIRE LAKELAND
37025

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name EMPIRE MOULMEIN.	Official Number 180219	Nationality and Port of Registry British French South Shields	Gross Tonnage 1047	Date of Build 1944	Port of Survey NEWCASTLE-ON-TYNE
Moulded Dimensions: Length 425.83 Breadth 56.00 Depth 34.64					Date of Survey Building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 14100 tons					Surveyor's Signature A. Athor.
Coefficient of fineness for use with Tables $\frac{14100 \times 35}{425.83 \times 56 \times 32.02} = .484$					Particulars of Classification +100.A.1.
					with freeboard (contemplated).

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth ...	34.64	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B) 56.0	
Stringer plate ...	$\frac{.65}{12} = .05$	$(34.64 - 28.39) 3 = +28.08$		Standard Round of Beam = $\frac{B \times 12}{50} = \frac{56 \times 12}{50} = 13.44$	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \frac{.21 \times 65}{425.83} = .03$.03	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam = $\frac{14.00}{50} = .28$	
Depth for Freeboard (D) =	34.45	If restricted by superstructures		Difference = $.28 - .28 = 0$	
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.28}{4} \times \left(1 - \frac{56}{425.83} \right) = .07$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure 7.5
„ overhang ...						„ „ R.Q.D. 0
R.Q.D. enclosed ...						Deduction for complete superstructure 42.0
„ overhang ...						Percentage covered $\frac{S}{L} = .0834$
Bridge enclosed ...						„ „ $\frac{S_1}{L} = .0834$
„ overhang aft ...						„ „ $\frac{E}{L} = .045$
„ overhang forward ...						Percentage from Table, Line A. .0345
Fore enclosed ...	35.64	35.64	6.42	6.42/7.5	31.96	(corrected for absence of forecastle (if required))
„ overhang ...						Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
„ forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction = $42 \times .0345 = 1.44$
„ „ forward						1.57
Total ...	35.64	35.64			31.96	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	52.58	1		52.58	31.00	31.00	1		31.00	Mean actual sheer aft = Mean standard sheer aft =
$\frac{1}{8}L$ from A.P. ...	23.40	4		93.60	.06	.06	4		.24	
$\frac{3}{8}L$ „ ...	5.485	2		11.587	-	-	2		-	Mean actual sheer forward = Mean standard sheer forward =
Amidships ...	-	4		-	-	-	4		-	
$\frac{5}{8}L$ from F.P. ...	11.547	2		23.094	-	-	2		-	Length of enclosed superstructure forward of amidships = „ „ aft of „ =
$\frac{7}{8}L$ „ ...	46.80	4		187.20	6.33	6.33	4		25.32	
F.P. ...	105.147	1		105.147	81.00	81.00	1		81.00	
Total ...				473.220					134.56	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{328.66}{18} \times .7082 = +13.21$

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

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. **✓**

Sheer parallel to base line from frame 30 to frame 129.

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **37.72**

Summer freeboard = **11.048**

Moulded draught (d) = **26.674**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **6.67**

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 13960$

Tons per inch immersion at summer load water line

 $T = 49.2$ Deduction = $\frac{\Delta}{40T}$ inches $\frac{13960}{40 \times 49.2} = 7.0$ $40 \times 49.2 = 1968$

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient $\frac{.684 \times 784}{1.36} = 1.464$ Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. **2.06**

Summer Freeboard = **133.00**

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

Tropical Fresh Water Line above Centre of Disc ...	13 3/4	Tropical Fresh Water Freeboard ...	9 11/4
Fresh Water Line „ „ ...	4 3/4	Fresh Water „ „ ...	10 6
Tropical Line „ „ ...	6 3/4	Tropical „ „ ...	10 6 1/2
Winter Line below „ „ ...	6 3/4	Winter „ „ ...	11 7 3/4
Winter North Atlantic Line „ „ ...	-	Winter North Atlantic „ „ ...	-

10m 3.37. T.

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.

Designed draught 26.45'
 Less keel & step .12
26.63'

Est. Draught	Est. S.	T.O.I.
28.0	14400	49.8
26.9	13960	49.2
26.0	13520	48.9.

Trade of ship Ocean going cargo vessel.

Names of sister ships Similar to same Builders No 530. "Empire Lakeland"

Builder's name and yard number John Readhead & Sons. No 540.

Owners Ministry of War Transport.

Fee £ To be charged with H.E. fee.



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