

Rpt. C.11 (Comp.).

Empire ~~Storm~~ 36478

B.T. COPY.

Index. No. 36439
(For London Office only).

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name Empire Rain.	Official Number 168647	Nationality and Port of Registry British South Shields.	Gross Tonnage 7200 7290.13	Date of Build 1940	Port of Survey South Shields.
Moulded Dimensions: Length 425.6 Breadth 56.5 Depth 37.83 ^{2nd Deck} 37.83 ^{Shelter Deck} 37.83					Date of Survey During Construction.
Moulded displacement at moulded draught = 85 per cent. of moulded depth Ext D = M¹ D + 40¹ f + 2 x Keel f. M¹ D + 63 + 2 x 79					Surveyor's Signature J. R. R. R.
Coefficient of fineness for use with Tables 763 785					Particulars of Classification + 100 A1. (closed shelter deck) with freeboard

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth ...	37.83 22.08	(a) Where D is greater than Table depth (D - Table depth) R = (37.83 - 28.37) x 3 = + 28.5		Moulded Breadth (B)	56.5
Stringer plate ...	4.65 0.05	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 9.53		Standard Round of Beam = $\frac{B \times 12}{50}$	13.56
Sheathing on exposed deck T $\left(\frac{L-S}{L}\right)$ =	37.90	If restricted by superstructures		Ship's Round of Beam	13.5
Depth for Freeboard (D) =	37.11			Difference Deficiency	0.06
				Restricted to	
				Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right)$	0.06 $\times 1.0 = +0.02$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Pop enclosed ...	40.35		8.75		
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...	38.25				
„ overhang aft ...					
„ overhang forward ...					
F'cle enclosed ...					
„ overhang ...					
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward ...					
Total ...	40.6				

Flush Decked

Standard Height of Superstructure	<input checked="" type="checkbox"/>
„ „ R.Q.D.	<input checked="" type="checkbox"/>
Deduction for complete superstructure	<input checked="" type="checkbox"/>
Percentage covered $\frac{S}{L}$	<input checked="" type="checkbox"/>
„ „ $\frac{S_1}{L}$	<input checked="" type="checkbox"/>
„ „ $\frac{E}{L}$	<input checked="" type="checkbox"/>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	<input checked="" type="checkbox"/>
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	<input checked="" type="checkbox"/>
Interpolation for bridge less than 2L (if required)	<input checked="" type="checkbox"/>
Deduction =	Nil.

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.56	1		52.56	63	63.00	1		63.00
$\frac{1}{4}$ L from A.P. ...	13.39	4		93.56	27 1/2	27.50	4		110.00
$\frac{3}{8}$ L „ ...	5.78	2		11.56	6 1/2	6.5	2		13.00
Amidships ...		4					4		
$\frac{3}{8}$ L from F.P. ...	11.56	2		13.12	12 3/4	12.75	2		25.50
$\frac{1}{4}$ L „ ...	46.78	4		187.12	49 3/4	49.75	4		199.00
F.P. ...	105.12	1		105.12	123	123.00	1		123.00
Total ...				478.04					533.50

Mean actual sheer aft = **Excess**
Mean standard sheer aft

Mean actual sheer forward = **Excess**
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = **Flush**
„ „ aft of „ = **Flush**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{60.46 \times 75}{18} = -2.52$
If limited on account of midship superstructure.

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

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient
Depth to Freeboard Deck = 37.90	$\Delta =$ 144.44	79.54 + 6.45 = 85.99
Summer freeboard = 10.83	Tons per inch immersion at summer load water line	79.54 + 6.45 = 85.99
Moulded draught (d) = 27.07	T = 49.4 7.4	85.99 - 9.3 = 76.69
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.77 6 3/4	Deduction = $\frac{\Delta}{40 T}$ inches = 7.30	76.69 - 7.30 = 69.39
Addition for Winter North Atlantic Freeboard (if required) =	Ext 4 = 17510 48.3	69.39 - 2.52 = 66.87
	24 = 13096 48.7	66.87 - 0.7/8 = 66.1
	26 = 13684 49.0	66.1 - 0.7/8 = 65.4
		Summer Freeboard = 130.00

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

Tropical Fresh Water Line above Centre of Disc	14"	Tropical Fresh Water Freeboard	10' - 10" 9 3/4"
Fresh Water Line	7 1/4"	Fresh Water	10' - 2 3/4" 1/2"
Tropical Line	6 3/4"	Tropical	10' - 3 1/4" 3"
Winter Line below	6 3/4"	Winter	11' - 4 1/2" 1/2"
Winter North Atlantic Line		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.

Trade of ship

International.

Names of sister ships

None.

Builder's name and yard number

John Readhead & Sons Ltd

No 520 ship.

Owners

Ministry of Shipping.

Fee £

£ 18-0-0

*To be rendered with
fee for 1st Entry.*



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Foundation