

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

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

Ship's Name "EMPIRE JOAN"	Official Number	Nationality and Port of Registry BRITISH GOOLE	Gross Tonnage	Date of Build 1943	Port of Survey Hull.
Moulded Dimensions: Length 95'0" Breadth 25'0" Depth 13'0"					Date of Survey During construction
Moulded displacement at moulded draught = 85 per cent. of moulded depth 415 tons					Surveyor's Signature J. Macleod
Coefficient of fineness for use with Tables .68 (.553 actual)					Particulars of Classification *100 A-1. "FOR TOWING SERVICES". (CONTEMPLATED)

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 13'0"	(a) Where D is greater than Table depth (D-Table depth) R = (13.03-6.33) .731 = +4.90"	Moulded Breadth (B) 25'0"
Stringer plate3203	6.70	Standard Round of Beam = $\frac{B \times 12}{50} = 6"$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ NONE	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Ship's Round of Beam = 7"
Depth for Freeboard (D) = 13.03	If restricted by superstructures	Difference 1"
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1}{4} = -.25"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	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 ...					

Standard Height of Superstructure ...

„ „ R.Q.D. ...

Deduction for complete superstructure ...

Percentage covered $\frac{S}{L} =$ } Flush Deck

„ „ $\frac{S_1}{L} =$

„ „ $\frac{E}{L} =$

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. ...	19.50	1		19.50	6"	6	1		6.00
1/4 L from A.P. ...	8.68	4		34.72	-1 1/2"	-1 1/2	4		-6.00
1/2 L „ ...	2.145	2		4.29	-3 1/2"	-3 1/2	2		-7.00
Amidships ...	-	4		-	ON PAGE 1.	-	4		-
3/4 L from F.P. ...	4.29	2		8.58	12 1/2"	4.29	2		8.58
1/4 L „ ...	17.36	4		69.44	32"	17.36	4		69.44
F.P. ...	39.00	1		39.00	63"	39.00	1		39.00
Total ...				175.53					110.02

Mean actual sheer aft = 50
Mean standard sheer aft

Mean actual sheer forward = Excess
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = } Flush Deck.

„ „ aft of „ = }

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{65.51}{18} \times .75 = +2.73"$
If limited on account of midship superstructure. ✓

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

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient
Depth to Freeboard Deck = 13.03	Δ = 41.3	9.5 + 1.42
Summer freeboard = 1.52	Tons per inch immersion at summer load water line	NIL
Moulded draught (d) = 11.51	T = 4.40	10.92
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 2.88 = 3"	Deduction = $\frac{\Delta}{40T}$ inches = 2.35 = 2 1/4"	10.92
Addition for Winter North Atlantic Freeboard (if required) = Not Assigned.	MLO DRAFT EXT. DISP. T.P.I.	
	12'0" 438 4.5	
	11'0" 386 4.29	
	10'0" 335 4.08	
		7.63 .25 + 7.38
		Summer Freeboard = 18.30

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

Tropical Fresh Water Line above Centre of Disc ...	Not Assigned	Tropical Fresh Water Freeboard ...	1' - 6 1/4"
Fresh Water Line „ „ ...	2 1/4	Fresh Water „ „ ...	1' - 4"
Tropical Line „ „ ...	Not Assigned	Tropical „ „ ...	1' - 9 1/4"
Winter Line below „ „ ...	3"	Winter „ „ ...	1' - 9 1/4"
Winter North Atlantic Line „ „ ...	Not Assigned	Winter North Atlantic „ „ ...	1' - 9 1/4"

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 "FOR TOWING SERVICES"

Names of sister ships "EMPIRE DARBY" - Cochrane & Sons Yard N° 1261.

Builder's name and yard number Cochrane & Sons Ltd

Owners

Fee £



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Foundation