

Empire Airman
36724.

Lloyd's Register of Shipping.

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(For London Office only).
23 APR 1942

SURVEYS FOR FREEBOARD.

No 33,375

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

Ship's Name EMPIRE COLERIDGE.	Official Number 169020	Nationality and Port of Registry BRITISH SUNDERLAND	Gross Tonnage 9798	Date of Build 1942	Port of Survey Sunderland
Moulded Dimensions: Length 476.96 Breadth 68.00 Depth 36.00 <i>To centre of huddles Stock</i>					Date of Survey During Construction
Moulded displacement at moulded draught = 85 per cent. of moulded depth 21467 tons					Surveyor's Signature <i>W. E. Miller</i>
Coefficient of fineness for use with Tables .757					Particulars of Classification +100 A.1. <i>carrying petroleum in bulk.</i> (contemplated)

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 36.00	(a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(36.07 - 31.80) \times 3 = +12.81''$	Moulded Breadth (B) 68.00
Stringer plate82	(b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$	Standard Round of Beam = $\frac{B \times 12}{50} =$ 16.32
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 17''
Depth for Freeboard (D) = 36.07		Difference .68
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) =$ $\frac{.68^2}{4} \times .6924 =$ -.12''

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	113.8	113.2	7.5	✓	113.2	Standard Height of Superstructure 7.5'
„ overhang ...	✓					„ „ R.Q.D. ✓
R.Q.D. enclosed ...	✓					Deduction for complete superstructure 42.00''
„ overhang ...	✓					Percentage covered $\frac{S}{L} =$
Bridge enclosed ...	✓					„ $\frac{S_1}{L} =$ 30.97
„ overhang aft ...	✓					„ $\frac{E}{L} =$
„ overhang forward ...	✓					Percentage from Table, Line A, Tanker 21.97
F'cle enclosed ...	34.5	34.5	7.5	✓	34.5	(corrected for absence of forecabin (if required)) ✓
„ overhang ...	✓					Percentage from Table, Line B. ✓
Trunk aft ...	✓					(corrected for absence of forecabin (if required)) ✓
„ forward ...	✓					Interpolation for bridge less than 2L (if required) ✓
Tonnage opening aft ...	✓					Deduction = 42.00 x 21.97 = -9.23''
„ „ forward	✓					
Total ...	147.8	147.7			147.7	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	57.70	1	57.70	45.3/4	45.75	1	45.75			Mean actual sheer aft =
1/8 L from A.P. ...	25.67	4	102.68	20 1/2	20.50	4	82.00			Mean standard sheer aft =
2/8 L „ ...	6.345	2	12.69	5 3/8	5.375	2	10.75			Mean actual sheer forward =
Amidships ...	-	4	-	0	-	4	-			Mean standard sheer forward =
3/8 L from F.P. ...	12.69	2	25.38	6 3/4	6.75	2	13.50			Length of enclosed superstructure forward of amidships =
1/8 L „ ...	51.34	4	205.36	26 3/4	26.75	4	107.00			„ „ aft of „ =
F.P. ...	115.39	1	115.39	62.	62.00	1	62.00			
Total ...			519.20				321.00			

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{198.2}{18} \left(\frac{75-1548}{2L} \right) = +6.55''$
If limited on account of midship superstructure. **✓**

Mean actual sheer aft = **Deficient.**
Mean actual sheer forward = **Deficient.**
Length of enclosed superstructure forward of amidships = **Nil.**
„ „ aft of „ = **Nil.**

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Fresh Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient	81.94 -
Depth to Freeboard Deck = 36.07	$\Delta =$ 195.56	752 + .68 = 1.437/1.36	86.58 -
Summer freeboard = 8.04	Tons per inch immersion at summer load water line	Depth Correction ...	
Moulded draught (d) = 28.03	$T =$ 65.2	Deduction for superstructures ...	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7''	Deduction = $\frac{\Delta}{40T}$ inches = 7.50	Sheer correction ...	
Addition for Winter North Atlantic Freeboard (if required) = 7.01 + 4.77 = 11.78 = 11 3/4''	= 7 1/2''	Round of Beam correction ...	
		Correction for Thickness of Deck amidships ...	
		Other corrections, scantlings, etc. ...	
		Summer Freeboard = 96.59	

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

Tropical Fresh Water Line above Centre of Disc	...	14 1/2''
Fresh Water Line	...	7 1/2''
Tropical Line	...	7''
Winter Line	below	7''
Winter North Atlantic Line	...	11 3/4''

Tropical Fresh Water Freeboard	...	8' - 0 1/2''
Fresh Water	...	6' - 10''
Tropical	...	7' - 5''
Winter	...	7' - 5 1/2''
Winter North Atlantic	...	8' - 7 1/2''

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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.

Actual displacement at 28'3" draft = 19547 tons

Tons Per Inch = 65.2

Roop equivalent length.

	109.125'
$\frac{2}{3} \times 6.12$	<u>4.08</u>
	113.20'

over

Trade of ship

Names of sister ships SS/s. Empire Arman, Empire Marvell Sld. Rpts N° 33284, 33312.

Builder's name and yard number Hessen. Sir James Laing & Son Ltd Yard N° 741

Owners Ministry of War Transport.

Fee £ 20

Will be charged on completion



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Foundation