

-9 JUL 1942

Rpt. C.11 (Comp.).

Empire Airman 36724
Similar
etc.

Lloyd's Register of Shipping.

Index. No. 368914
(For London Office only).

SURVEYS FOR FREEBOARD.

Nº 33431

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

Ship's Name EMPIRE WORDSWORTH	Official Number 169027	Nationality and Port of Registry British Sunderland	Gross Tonnage 9890.64	Date of Build 1942	Port of Survey Sunderland
Moulded Dimensions: Length 476.125 Breadth 68.00 Depth 36.00				Date of Survey During Construction	
Moulded displacement at moulded draught = 85 per cent. of moulded depth 21467 tons				Surveyor's Signature W. E. Lulla	
Coefficient of fineness for use with Tables .758				Particulars of Classification +100 A.1. <i>(contemplated)</i> <i>carrying petroleum in bulk.</i>	

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 36.00	(a) Where D is greater than Table depth (D - Table depth) R = (36.07 - 31.74) x 3 = +12.99"	Moulded Breadth (B) 68.00
Stringer plate82	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 4.33	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 = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) =$ $\frac{.68^2}{4} \times .7003 = -.12"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed <i>Equip.</i>	108.30	108.20	7.5	✓	108.20
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward					
Fore enclosed ...	34.5	34.50	7.5	✓	34.50
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	142.85	142.70			142.70

Standard Height of Superstructure **7.5'**

" " R.Q.D. **✓**

Deduction for complete superstructure **42.00"**

Percentage covered $\frac{S}{L} =$ **29.97**

" $\frac{S_1}{L} =$

" $\frac{E}{L} =$

Percentage from Table, Line A. *Tanker* **20.98**

(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 = **42.00 x .2098 = -8.81"**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	57.61	1		57.61	45.3/4	45.75	1		45.75
1/4 L from A.P. ...	25.635	4		102.54	20.2	20.50	4		82.00
2/4 L " ...	6.34	2		12.68	5.3/8	5.375	2		10.75
Amidships ...	-	4		-	0	-	4		-
3/4 L from F.P. ...	12.675	2		25.35	6.3/4	6.75	2		13.50
1/4 L " ...	51.27	4		205.08	26.3/4	26.75	4		107.00
F.P. ...	115.23	1		115.23	62.	62.00	1		62.00
Total ...				518.49					321.00

Mean actual sheer aft = **45.75**

Mean standard sheer aft = **45.75**

Mean actual sheer forward = **82.00**

Mean standard sheer forward = **82.00**

Length of enclosed superstructure forward of amidships = **142.70**

" " aft of " = **142.70**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ **$\frac{197.49}{18} (.75 - .1499) = +6.58"$**

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 .758 + .68 = 1.438 / 1.36
Depth to Freeboard Deck = 36.07	$\Delta =$ 195.24	Depth Correction ... 12.99
Summer freeboard = 8.08	Tons per inch immersion at summer load water line	Deduction for superstructures ... 8.81
Moulded draught (d) = 27.99	T = 65.2	Sheer correction ... 6.58
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7"	Deduction = $\frac{\Delta}{40T}$ inches = 7.49	Round of Beam correction12
Addition for Winter North Atlantic Freeboard (if required) = 7.0 + 4.76 = 11.76	= 7 1/2"	Correction for Thickness of Deck amidships ... -
		Other corrections, scantlings, etc. ... -
		19.57 8.93 + 10.64
		Summer Freeboard = 97.05

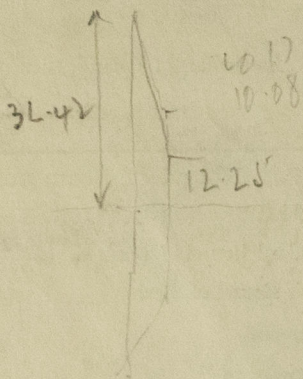
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck

Tropical Fresh Water Line above Centre of Disc ... 14 1/2"	Tropical Fresh Water Freeboard ... 6' 10 1/2"
Fresh Water Line " " ... 7 1/2"	Fresh Water " " ... 7' 5 1/2"
Tropical Line " " ... 7"	Tropical " " ... 7' 6"
Winter Line below " " ... 7"	Winter " " ... 8' 8"
Winter North Atlantic Line " " ... 11 3/4"	Winter North Atlantic " " ... 9' 0 3/4"

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.

Actual displacement at 28'-3" draft = 19547
 Ton Per Inch = 65.2.

Equivalent length of keel. $103.79 + \frac{2}{3} \times 662$
 $\frac{4.41}{108.20}$
 6.62×12.25
 6.62×10.085
 6.62×22.335
 32.42



Over

Trade of ship

Names of sister ships *SS. Empire Coleridge etc. SLD. RPT. N° 33375*

Builder's name and yard number *Messrs Sir James Laing & Sons Ltd N° 742*

Owners *Ministry of War Transport.*

Fee £ *20*

Cost to be charged on completion



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