

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, TANKER.)

11 DEC 1942
Index. No. 37094
(For London Office only).

No. 14383.

Ship's Name FURNESS S.B. CO LTD No 350. EMPIRE COBBETT.	Official Number 164861	Nationality and Port of Registry BRITISH MIDDLESBROUGH	Gross Tonnage 9811.48 9810 APPROX.	Date of Build WHILE BUILDING.	Port of Survey MIDDLESBROUGH
Moulded Dimensions: Length 476'-4 1/2" Breadth 68'-0" Depth 36'-0" <i>To centre of rudder stock 476.96'</i>					Date of Survey WHILE BUILDING
Moulded displacement at moulded draught = 85 per cent. of moulded depth 21480 T.P.I. 66.5 tons MLO 28'-0" 19415 T.P.I. 65.4					Surveyor's Signature H. B. Young.
Coefficient of fineness for use with Tables .757					Particulars of Classification 1-100 A1 CARRYING PETROLEUM IN BULK LONGITUDINAL FRAMING CLASS CONTEMPLATED

Depth for Freeboard (D). Moulded depth 36.000' Stringer plate82"068' Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 36.068'	Depth correction. (a) Where D is greater than Table depth (D-Table depth) R = (36.07-31.80)3 = +12.81 4.27 (b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓ If restricted by superstructures ✓	Round of Beam correction. Moulded Breadth (B) 68.0' Standard Round of Beam = $\frac{B \times 12}{50} = 16.32$ Ship's Round of Beam 17" = 17.00 +41' Difference .68 Restricted to Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.68}{4} \times .6899 = -.12"$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed <i>equi</i> 113.21	113.21	113.21	7'-6"	✓	113.21	Standard Height of Superstructure 7.5
R.Q.D. enclosed						" " R.Q.D. ✓
" overhang						Deduction for complete superstructure 42
Bridge enclosed						Percentage covered $\frac{S}{L} = 31.04$
" overhang aft						" " $\frac{S_1}{L} = 31.01$
" overhang forward						" " $\frac{E}{L} = 31.01$
F'cle enclosed	34'-6 1/2"	34.54	7'-6"	✓	34.54	Percentage from Table, Line TANKER 22.01 (corrected for absence of forecastle (if required))
" overhang	-3 1/2"	.15			.15	Percentage from Table, Line B. ✓ (corrected for absence of forecastle (if required)) ✓
Trunk aft						Interpolation for bridge less than 2L (if required) ✓
" forward						Deduction = 42.00 x .2201 = -9.24"
Tonnage opening aft						
" forward						
Total	148.04	147.90			147.90	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	57.70	1		57.70	45.75	45.75	1		45.75	Mean actual sheer aft =
1/4 L from A.P.	25.675	4		102.70	20.75	20.75	4		83.00	Mean standard sheer aft =
1/2 L	6.35	2		12.70	5.625	5.625	2		11.25	} Deficient.
3/4 L										
Amidships	-	4		-	-	-	4		-	Mean actual sheer forward =
1/4 L from F.P.	12.695	2		25.39	6.89	6.89	2		13.78	Mean standard sheer forward =
1/2 L	51.35	4		205.40	26.75	26.75	4		107.00	} Tanker.
3/4 L										
F.P.	115.39	1		115.39	61.625	61.625	1		61.63	Length of enclosed superstructure forward of amidships =
Total				519.28					322.41	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - \frac{S}{2L}}{.75} \right) = \frac{196.87}{18} \left(\frac{.75 - .1552}{.75} \right) = +6.51"$
If limited on account of midship superstructure. **.5948** If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **36.07**
Summer freeboard = **8.04**
Moulded draught (d) = **28.03**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **7"**

Addition for Winter North Atlantic Freeboard (if required) = **7.01 + 4.77 = 11.78 = 11 3/4"**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 19538$

Tons per inch immersion at summer load water line

T = 65.4

Deduction = $\frac{\Delta}{40T}$ inches

= 7.47"

= 7 1/2"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.757 + .68}{1.36} = 1.437/1.36$

	+	-
Depth Correction	12.81	-
Deduction for superstructures	-	9.24
Sheer correction	6.51	-
Round of Beam correction	-	.12
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	19.32	9.36

Summer Freeboard = **96.54**

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"**
Winter North Atlantic " " ... **9'-0 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.

Poop at side 108' - 6 1/2"

2/3 x 6' 1 1/2"

4' - 1"

112' - 7 1/2"

A.P. to centre of rudder stock 7"

113 - 2 1/2"

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Trade of ship. TANKER

Names of sister ships. 'EMPIRE DICKENS' N° 341, 'EMPIRE NORSEMAN' N° 342, 'EMPIRE LYTTON' N° 343, 'EMPIRE GRENADIER' N° 344
'EMPIRE NUGGET' N° 349. FURNESS S.B. CO. LTD.

Builder's name and yard number. FURNESS S.B. CO. LTD. N° 350.

Owners. MINISTRY OF WAR TRANSPORT.

Fee £ WILL BE CHARGED ON F.E. REPORT.



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