

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

20 SEP 1945

Ship's Name "EMPIRE FORTH" (Ex German "MARS")	Official Number 180662	Nationality and Port of Registry British London.	Gross Tonnage 2471	Date of Build 1939.	Port of Survey hull
Moulded Dimensions: Length 328'-1" Breadth 47'-6 1/2" Depth 19'-7 1/8" to FBD. DECK.					Date of Survey 18.9.45.
Moulded displacement at moulded draught = 85 per cent. of moulded depth					Surveyor's Signature J. L. Beasley.
Coefficient of fineness for use with Tables .68 (assumed)					Particulars of Classification <input checked="" type="checkbox"/>

DEPTH FOR FREEBOARD (D). Moulded depth ... 19.62 Stringer plate ... 53"04 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 19.66	DEPTH CORRECTION. (a) Where D is greater than Table depth (D-Table depth) R = (b) Where D is less than Table depth (if allowed) (Table depth-D) R = $(21.87-19.66) \times 2.524 = -5.58$ $\frac{2.21}{2.524}$ If restricted by superstructures	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 47.54 Standard Round of Beam = $\frac{B \times 12}{50} =$ 11.41 Ship's Round of Beam = 10" Difference = 1.41 Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{1.41^2 \times 0.076}{4} =$.03
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	24.50	24.50			24.50
" overhang ...	1.37	.68			.68
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	296.83	296.83	8.53		296.83
" overhang aft ...	1.38	1.03			1.03
" overhang forward ...					
Fore enclosed ...	See sketch		7'-8 1/2"		
" overhang ...					
Trunk aft ...					
" forward ...	4.00	2.52	8'-7"		2.52
Tonnage opening aft ...	6.00				
" forward ...					
Total ...	328.08	325.56			325.56

Standard Height of Superstructure **6.781**

" " R.Q.D. **37.21**

Deduction for complete superstructure **37.21**

Percentage covered $\frac{S}{L} =$ **100.00**

" " $\frac{S_1}{L} =$ **99.24**

" " $\frac{E}{L} =$ **99.06**

Percentage from Table, Line A. **99.06**
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. **99.06**
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = **37.21 x .9906 = -36.86**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	42.81	1	42.81	42.81	55"	76.00	1	76.00	76.00
1/8 L from A.P. ...	19.05	4	76.20	76.20		33.82	4	135.28	135.28
3/8 L " ...	4.71	2	9.42	9.42		8.36	2	16.72	16.72
Amidships ...	-	4	-	-	NIL.	-	4	-	-
5/8 L from F.P. ...	9.42	2	18.84	18.84		11.00	2	22.00	22.00
7/8 L " ...	38.10	4	152.40	152.40		44.50	4	178.00	178.00
F.P. ...	85.62	1	85.62	85.62	79"	100.00	1	100.00	100.00
Total ...			385.29	385.29	+21			528.00	528.00

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{142.71 \times .25}{18} = -1.98$

If limited on account of midship superstructure.

Actual height of superstructure = **8.53**
Standard = **6.78**
Diff = **1.75**

Mean actual sheer aft = **76.00**
Mean standard sheer aft = **76.00**

Mean actual sheer forward = **16.72**
Mean standard sheer forward = **16.72**

Length of enclosed superstructure forward of amidships = **135.28**
aft of amidships = **16.72**

TABULAR FREEBOARD corrected for Flush Deck (if required)

	+	-
Depth Correction ...	5.58	
Deduction for superstructures ...	36.86	
Sheer correction ...	1.98	
Round of Beam correction ...		
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...		
	44.42	-44.42
Summer Freeboard =	6.27	

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **19.66**
 Summer freeboard = **.52**
 Moulded draught (d) = **19.14**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **4.78 = 4 3/4**

Addition for Winter North Atlantic Freeboard (if required) = **6 3/4**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Tons per inch immersion at summer load water line

Deduction = $\frac{\Delta}{40 T}$ inches**4 3/4**

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

Tropical Fresh Water Line above Centre of Disc ...	9" 9/16
Fresh Water Line " " ...	4 3/4
Tropical Line " " ...	4 1/4 = 4 3/4
Winter Line below " " ...	4 3/4
Winter North Atlantic Line " " ...	6 3/4

Tropical Fresh Water Freeboard **9" 9/16**
 Fresh Water **4 3/4**
 Tropical **4 1/4**
 Winter **4 3/4**
 Winter North Atlantic **6 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.

24.5 6.75-

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £

Werk. Seebeck Wesermünde & Deutsche Schiff- und Masch. Aktiengesellschaft

Ministry of War Transport - Managers Prince Line Ltd.

To be charged with General Examination.



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Foundation