

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Moulded Dimensions: Length 425'-0" Breadth 56'-0" Depth 37'-8"
 To CR OF STOCK 425'-11 1/4"
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 17138 tons
 Coefficient of fineness for use with Tables 785

Moulded depth 37.66

Stringer plate 65" ... 05

Sheathing on exposed deck

$T \left(\frac{L-S}{L} \right) =$ ✓

Depth for Freeboard (D) = 37.72

Mean Covered Length (S)	Equivalent Enclosed Length (S_1)	Height	Height Correction	Effective Length (E)
35' 8"	35.67	6.75	6.75 / 7.5	32.10
35.67	35.67			32.10

Standard Height of Superstructure 7.5
 " " R.Q.D. ✓
 Deduction for complete superstructure 42.00
 Percentage covered $\frac{S}{L} = 8.37$
 " " $\frac{S_1}{L} = 8.37$
 " " $\frac{E}{L} = 7.54$
 Percentage from Table, Line A. 3.77
 (~~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 = $42 \times .0377 = -1.58$ "

Station	Standard Ordnate	S M	Product	Actual Ordnate INCHES	Effective Ordnate	S M	Product
A.P.	52.59	1	52.59	31.0	31.00	1	31.00
$\frac{1}{8}$ L from A.P. ...	23.41	4	93.64	-	-	4	"
$\frac{2}{8}$ L " ...	5.79	2	11.58	-	-	2	"
Amidships ...	-	4	-	-	-	4	"
$\frac{3}{8}$ L from F.P. ...	11.57	2	23.14	-	-	2	"
$\frac{1}{8}$ L " ...	46.81	4	187.24	6.0	6.0	4	24.00
F.P.	105.19	1	105.19	81.0	81.0	1	81.00
Total ...			473.38				136.00

$$\frac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}} =$$

$$\frac{\text{Mean actual sheer forward}}{\text{Mean standard sheer forward}} =$$

} DEFICIENT

$$\frac{\text{Length of enclosed superstructure}}{\text{L}} \text{ forward of amidships} =$$

$$\text{aft of } =$$

} NIL

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{337.38}{18} \left(.75 - \frac{.0419}{.7081} \right) = + 13.27$

If limited on account of midship superstructure. ✓ If limited to

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = 37.72</p> <p>Summer freeboard = 11.08</p> <p>Moulded draught (d) = 26.64</p> <p>Deduction for Tropical Freeboard and addition for</p> <p>Winter freeboard = $\frac{d}{4}$ inches = 6.66 = 6.66</p> <p>Addition for Winter North Atlantic Freeboard (if required) =</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line 26.9</p> <p>Δ = 14006 TONS</p> <p>Tons per inch immersion at summer load water line 26.9</p> <p>T = 49.23 TONS</p> <p>Deduction = $\frac{\Delta}{40 T}$ inches</p> <p>= 7.10</p> <p>= 7"</p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient</p> <p>Depth Correction 27.96</p> <p>Deduction for superstructures -</p> <p>Sheer correction 13.27</p> <p>Round of Beam correction -</p> <p>Correction for Thickness of Deck amidships -</p> <p>Other corrections, scantlings, etc. To CORRESPOND TO A SUMMER EXTREME DRAUGHT OF 26'-9"</p>
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Tropical Fresh Water Line above Centre of Disc	...	13 3/4	345	Tropical Fresh Water Freeboard	...	9' - 11 1/4"	3029
Fresh Water Line	"	7	178	Fresh Water	"	10' - 6"	3200
Tropical Line	"	6 3/4	171	Tropical	"	10' - 6 1/4"	3227
Winter Line below	"	6 3/4	171	Winter	"	10' - 7 3/4"	3157
Winter North Atlantic Line	"	✓		Winter North Atlantic	"		

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.

WEST HARTLEPOOL

1945

BRITISH
WEST
HARTLEPOOL

EMPIRE CENTAUR

Aug. 1945

8.500

37.8

26.0

452.0
452.114

TO BE ON STOCK

17138

8.100 A1

WITH FREEBOARD

26.0

14

37.8

26.0

452.0

26.0

37.8

No SHEER BETWEEN FRS 29 & 159

INCHES

21.0

6.0

81.0

Trade of ship OCEAN-GOING

Names of sister ships "EMPIRE BUILDER", "EMPIRE PURCELL", "EMPIRE ARNOLD", "EMPIRE LIONEL" X "EMPIRE CLARION"

Builder's name and yard number WILLIAM GRAY & CO. LTD. YARD NO 1134

Owners MINISTRY OF WAR TRANSPORT

Fee £ 18 . 0 . 0



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Foundation