

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

GRK. REPORT N° 22747.

SUNLIGHT

Ship's Name	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build
EMPIRE BALFOUR	3480 HK	BRITISH	APPROX. 2000	1944
	169514	GREENOCK PANAMA	200.97	

Port of Survey GREENOCK

Date of Survey WHILE BUILDING

Surveyor's Signature J. Jamison

Particulars of Classification + 100 A1.
WITH FREEBOARD.

Moulded Dimensions: Length 425.8' Breadth 56.0' Depth 36.11'
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 16440 tons
 Coefficient of fineness for use with Tables 769.

DEPTH FOR FREEBOARD (D).

Moulded depth ... UPPER DK = 36.92
 Stringer plate U.DK. 170/80 ... 06
 Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
 Depth for Freeboard (D) = 36.98

DEPTH CORRECTION.

- (a) Where D is greater than Table depth
 (D-Table depth) R =
 $(36.98 - 28.39) \times 3 = + 25.77$
 (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) 56.0
 Standard Round of Beam = $\frac{B \times 12}{50} = 13.44$
 Ship's Round of Beam = 14.56
 Difference
 Restricted to
 Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{56}{4} \times \frac{9196}{L} = -13$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
F'cle enclosed	34.3	34.25	7.6	-	34.25
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	34.25	34.25			34.25

Standard Height of Superstructure 7.5'

R.Q.D.

Deduction for complete superstructure 42

Percentage covered $\frac{S}{L} =$
 $\frac{S_1}{L} =$
 $\frac{E}{L} =$
 8.04

Percentage from Table, Line A. 4.02
 (corrected for absence of fore-castle (if required))

Percentage from Table, Line B.
 (corrected for absence of fore-castle (if required))

Interpolation for bridge less than .2L (if required)

Deduction = $42 \times 0.0402 = -1.69$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	52.58	1		52.58	52	52	1		52
$\frac{1}{8}$ L from A.P.	23.395	4		93.58	22	22	4		88
$\frac{2}{8}$ L	5.785	2		11.57	2.4	2.25	2		4.5
Amidships	-	4		-	LEVEL AMIDSHIPS	-	4		-
$\frac{2}{8}$ L from F.P.	11.57	2		23.14	10	10	2		20
$\frac{1}{8}$ L	46.79	4		187.16	46	46	4		184
F.P.	105.16	1		105.16	106	106	1		106
Total				473.19					454.5

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - \frac{S}{2L}}{.7098} \right) = \frac{18.69(-.75 - .0402)}{18} = +.74$
 If limited on account of midship superstructure.

Mean actual sheer aft = Deficient
 Mean standard sheer aft

Mean actual sheer forward = Deficient
 Mean standard sheer forward

Length of enclosed superstructure forward of amidships =
 L aft of =

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 36.98
 Summer freeboard = 10.88
 Moulded draught (d) = 26.10

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.52 = 6.5

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 26.0 \times 1395$
 Tons per inch immersion at summer load water line
 $T = \frac{26.0 \times 48.00}{27.0} = 48.33$
 Deduction = $\frac{\Delta}{40 T}$ inches
 $= \frac{13540}{40 \times 48.08} = 7.04 = 7$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.769 + .68}{1.36} = \frac{1.449}{1.36}$

Depth Correction ... 25.77
 Deduction for superstructures ... 1.69
 Sheer correction74
 Round of Beam correction13
 Correction for Thickness of Deck amidships ...
 Other corrections, scantlings, etc. ...
 Total ... 26.114

+	-
25.77	-
-	1.69
.74	-
-	.13
-	-
19.66	-
46.17	1.82

Summer Freeboard = 130.50

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

Tropical Fresh Water Line above Centre of Disc ... 13 1/2"
 Fresh Water Line ... 7"
 Tropical Line ... 6 1/2"
 Winter Line below ... 6 1/2"
 Winter North Atlantic Line ...

Tropical Fresh Water Freeboard ... 9'-9"
 Fresh Water ... 10'-3 1/2"
 Tropical ... 10'-4"
 Winter ... 11'-5"
 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.

For basis computation
See "Empire Talisman" - 37644

Trade of ship INTERNATIONAL.

Names of sister ships EMPIRE TALISMAN.

Builder's name and yard number LITHGONS LTD YARD No 998.

Owners MINISTRY OF WAR TRANSPORT (ELDERS & FYFFES LTD).

APPROX.
Fee £ 10-0-0.



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