

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index No. 38191
(For London Office only.)N^o 34299

Ship's Name EMPIRE CONGERSTONE EX "ERMLAND"	Official Number 180665	Nationality and Port of Registry BRITISH LONDON	Gross Tonnage 987	Date of Build 1921	Port of Survey Sunderland
Moulded Dimensions: Length 216' 3" Breadth 34' 6 1/2" Depth 15' 7"					Date of Survey SEPTEMBER 1945
Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons					Surveyor's Signature P. Horridge
Coefficient of fineness for use with Tables .825 (assumed)					Particulars of Classification _____

DEPTH FOR FREEBOARD (D).

Moulded depth **15' 58"**

Stringer plate **30"**

Sheathing on exposed deck

$T \left(\frac{L-S}{L} \right) =$ **✓**

Depth for Freeboard (D) = **15' 61"**

DEPTH CORRECTION.

(a) Where D is greater than Table depth
(D-Table depth) R = $(15' 61" - 14' 42") \times 1.663 = + 1' 98"$

(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) **34' 54"**

Standard Round of Beam = $\frac{B \times 12}{50} =$ **8' 29"**

Ship's Round of Beam = **9'**

Difference **.71**

Restricted to

Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.71 \times 3215}{4} = - .06$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed (am R.Q.D.)	13.66		7.50		
" overhang	-				
R.Q.D. enclosed	58.66	58.66	3.92'	-	58.66
" overhang	-				
Bridge enclosed	65.16	62.80	7.33'	-	62.80
" overhang aft	41				
" overhang forward	58	.29			.29
Fore enclosed equivalent	23.41	25.00	7.50'	-	25.00
Trunk aft	25.00				
" forward	-				
Tonnage opening aft	-				
" " forward	-				
Total	149.40	146.75			146.75

Standard Height of Superstructure **6.0**

" " R.Q.D. **3.775**

Deduction for complete superstructure **27.63**

Percentage covered $\frac{S}{L} =$ **69.08**

" " $\frac{S_1}{L} =$ **67.85**

" " $\frac{E}{L} =$ **67.85**

Percentage from Table, Line A. **59.34**
(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 = **27.63 × .5934 = - 16.40**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	31.62	1		31.62	30"	30	1		30
1/8 L from A.P.	14.075	4		56.30	12 1/2"	12.5	4		50
2/8 L "	3.48	2		6.96	2"	2	2		4
Amidships	-	4		-	-	-	4		-
2/8 L from F.P.	6.96	2		13.92	10"	10	2		20
1/8 L "	28.15	4		112.60	36"	36	4		144
F.P.	63.25	1		63.25	80"	80	1		80
Total				284.65					328

Correction = $\frac{\text{Difference between sums of products}}{18} =$

If limited on account of midship superstructure.

$$\left(\frac{.75 - S}{2L} \right) = \frac{43.35}{18} \left(\frac{.75 - .3454}{.4046} \right) = - .97$$

$$.97 \times 17.26 \div 20 = .84$$

Mean actual sheer aft = **> .75**Mean actual sheer forward = **✓**Length of enclosed superstructure forward of amidships = **.0726**" " aft of " = **.5****Deduction for Tropical Freeboard.****Addition for Winter and Winter North Atlantic Freeboard.**

Depth to Freeboard Deck = **15' 61"**

Summer freeboard = **1' 27"**

Moulded draught (d) = **14' 34"**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **3' 58" = 3 1/2'**

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

T =

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

$$\Delta / 40 = 3 1/2'$$

TABULAR FREEBOARD corrected for Flush Deck (if required)Correction for coefficient $\frac{.825 + .68}{1.36} = \frac{1.605}{1.36}$

Depth Correction **1.98**

Deduction for superstructures **16.40**

Sheer correction **.84**

Round of Beam correction **1.06**

Correction for Thickness of Deck amidships **-**

Other corrections, scantlings, etc. **-**

Summer Freeboard = **15' 27"****SUMMER FREEBOARD** amidships from Centre of Disc to top of Deck Line, **Wood, Steel, Deck :-**

Tropical Fresh Water Line above Centre of Disc **7"**

Fresh Water Line " " **3 1/2"**

Tropical Line " " **3 1/2"**

Winter Line below " " **3 1/2"**

Winter North Atlantic Line " " **3 1/2"**

Tropical Fresh Water Freeboard **0' 8 1/4"**

Fresh Water " " **0' 11 3/4"**

Tropical " " **0' 11 3/4"**

Winter " " **1' 6 3/4"**

Winter North Atlantic " " **1' 6 3/4"**

6000-732110-122110

Empire Congerstone

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.

DISPLACEMENT FROM SCALE ON BOARD.

~~15'0" = 1702 TONS.~~
~~14'0" = 1522 "~~
~~13'0" = 1338 "~~
~~12'0" = 1160 "~~

FREEBOARD AS MARKED.

F.W. 12"
 T. 13"
 S. 15"
 W. 19"

$$\begin{array}{r} \text{Fdc} \quad 23.41 \\ 2 \times 5 \times 5.17 = 1.59 \\ \hline 32.58 \quad 25.00 \end{array}$$

Rd Dr. 58.66
 Bridge 65.16
123.82

$$\frac{123.82}{216.25} = 57.262$$

7 90
 8 100
10
 207

$$\frac{.0726}{2} \times 10 = 363$$

$$100 - 3.63 = 96.37$$

$$\begin{array}{l} \therefore \text{Bridge allowance} \\ = 65.16 \times .9637 \\ = \underline{62.80} \end{array}$$

Trade of ship

GENERAL

Names of sister ships

Builder's name and yard number

SCHIFFB. GES. UNTERWESER M. B. H. WESERMUNDE-L.

Owners

MINISTRY OF WAR TRANSPORT (T & C. WILTON, Mgrs)

Fee £

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