

Basis computation as C.S.S. with T.O.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index. No. 36616
(For London Office only).

Ship's Name EMPIRE WYCLIF	Official Number	Nationality and Port of Registry British, Sunderland	Gross Tonnage	Date of Build	Port of Survey Sunderland
Moulded Dimensions: Length 420.48 Breadth 56.67 Depth 28.08					Date of Survey While building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 11888 tons					Surveyor's Signature R.M. WILSON.
Coefficient of fineness for use with Tables 732					Particulars of Classification +100A1 with fba computed.

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth 28.08	(a) Where D is greater than Table depth (D - Table depth) R = (28.11 - 28.03) × 3 = +.24	Moulded Breadth (B) 56.67
Stringer plate03	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = .08	Standard Round of Beam = $\frac{B \times 12}{50} = \mathbf{13.60}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓	If restricted by superstructures	Ship's Round of Beam = 14.00
Depth for Freeboard (D) = 28.11		Difference .40
		Restricted to ✓
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.40}{4} = \mathbf{.10}$ <i>Nie</i>

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			8.75		
„ overhang aft					
„ overhang forward					
Fore enclosed					
„ overhang					
Trunk aft					
„ forward					
Tonnage opening aft					
„ „ forward					
Total					

Standard Height of Superstructure 7.5	
„ „ R.Q.D. ✓	
Deduction for complete superstructure 42.00	
Percentage covered $\frac{S}{L} = \mathbf{100.00}$	Assumed
„ „ $\frac{S_1}{L} = \mathbf{99.38}$	
„ „ $\frac{E}{L} = \mathbf{99.38}$	
Percentage from Table, Line A. 99.24	
(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 = 42.00 × 99.24 = -41.68	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	52.05	1		52.05	63	78.00	1		78.00
$\frac{1}{2}$ L from A.P.	23.16	4		92.64	27.75	34.71	4		138.84
$\frac{2}{3}$ L „	5.73	2		11.46	7.50	8.58	2		17.16
Amidships	-	4		-	-	-	4		-
$\frac{2}{3}$ L from F.P.	11.46	2		22.92	13.50	11.34	2		32.78
$\frac{1}{2}$ L „	46.32	4		185.28	53.50	66.30	4		265.20
F.P.	104.10	1		104.10	134.00	144.00	1		144.00
Total				468.45	+15	61			687.98

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{212.53}{18} \times .25 = \mathbf{-2.95}$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. **✓**

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 28.11 Summer freeboard = 3.04 Moulded draught (d) = 25.05 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.26 Addition for Winter North Atlantic Freeboard (if required) = 7	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 = 3.04	TABULAR FREEBOARD corrected for Fresh Deck (if required) Correction for coefficient .732 × .68 = 1.412 <table style="width: 100%;"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td>.24</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures</td> <td>-</td> <td>41.68</td> </tr> <tr> <td>Sheer correction</td> <td>-</td> <td>2.45</td> </tr> <tr> <td>Round of Beam correction</td> <td>-</td> <td>3.04</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>-</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>-</td> <td>.72</td> </tr> <tr> <td></td> <td>.24</td> <td>44.63</td> </tr> <tr> <td>Summer Freeboard =</td> <td></td> <td>36.55</td> </tr> </table>		+	-	Depth Correction24	-	Deduction for superstructures	-	41.68	Sheer correction	-	2.45	Round of Beam correction	-	3.04	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	.72		.24	44.63	Summer Freeboard =		36.55
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

C.S.S. T.O.	25.07	Tropical Fresh Water Line above Centre of Disc	
thereon	1.5	Fresh Water Line „ „ „ „ „ „	
	26.57	Tropical Line „ „ „ „ „ „	
		Winter Line below „ „ „ „ „ „	
		Winter North Atlantic Line „ „ „ „ „ „	

Tropical Fresh Water Freeboard	
Fresh Water „ „ „ „ „ „	
Tropical „ „ „ „ „ „	
Winter „ „ „ „ „ „	
Winter North Atlantic „ „ „ „ „ „	