

26 FEB 1945

Index No. 37896
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

N^o 34141

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name **EMPIRE NAIROBI** Official Number **180152** Nationality and Port of Registry **BRITISH SUNDERLAND** Gross Tonnage **7295** Date of Build **1945**

Port of Survey **Sunderland**

Date of Survey **While building**

Surveyor's Signature **W. Milson**

Particulars of Classification **100 A1 with freeboard (Contemplated)**

Moulded Dimensions: Length **425.81** Breadth **56.0** Depth **38.05** ³⁰ **27.25 2nd DK**
To $\frac{1}{2}$ OF RUDDER STOCK **32.34** **1712017144**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **23.1625** **11760** tons

Coefficient of fineness for use with Tables **.779 (32.3)** **.747 (23.1625)**

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth	38.05	(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B)	56.0
Stringer plate	.70	(38.11-28.39) x 3 = + 29.16		Standard Round of Beam = $\frac{B \times 12}{50}$	13.44
Sheathing on exposed deck		9.72		Ship's Round of Beam Equidistant	14.25
$T \left(\frac{L-S}{L} \right) =$		(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Difference	56.81
Depth for Freeboard (D) =	38.11	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}^\circ}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{56}{4} \times \frac{8386}{L} = -12.17$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	34.50		3.0		
" overhang	↓		↓	x 3/6	17.25
R.Q.D. enclosed		34.50			
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
F'cle enclosed	34.25	34.25	7.0	7.75	31.96
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	68.75	68.75			49.21

Standard Height of Superstructure	7.5
" " R.Q.D.	5.0
Deduction for complete superstructure	42
Percentage covered $\frac{S}{L} =$	16.14
" " $\frac{S_1}{L} =$	
" " $\frac{E}{L} =$	11.56
Percentage from Table, Line A.	5.78
(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 x 0.0578 = - 2.43

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	52.58	1		52.58	9.125	9.12	1		9.12
$\frac{1}{4}L$ from A.P.	23.40	4		93.60	.125	.125	4		.50
$\frac{2}{4}L$ "	5.78	2		11.56			2		-
Amidships	-	4		-			4		-
$\frac{3}{4}L$ from F.P.	11.57	2		23.14			2		-
$\frac{1}{4}L$ "	46.80	4		187.20	5.25	5.25	4		21.00
F.P.	105.16	1		105.16	78.75	78.75	1		78.75
Total				473.24					109.37

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{363.87(75 - .0807)}{18} = + 13.53$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1½ ins. per 100 ft. -

Deduction for Tropical Freeboard.		Deduction for Fresh Water.		TABULAR FREEBOARD	
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line		Corrected for Flush Deck (if required)	
Depth to Freeboard Deck =	38.11	$\Delta =$	13880	Correction for coefficient	$\frac{778+68}{1.36} = \frac{1458}{1.36}$
Summer freeboard =	11.42	Tons per inch immersion at summer load water line	T = 48.78	Depth Correction	29.16
Moulded draught (d) =	26.69	Deduction = $\frac{\Delta}{40 T}$ inches	= 7.11 = 7"	Deduction for superstructures	2.43
Deduction for Tropical freeboard and addition for				Sheer correction	13.53
Winter freeboard = $\frac{d}{4}$ inches =	6.67 = 6¾			Round of Beam correction	1.17
Addition for Winter North Atlantic Freeboard (if required) =	✓			Correction for Thickness of Deck amidships	11.52
				Other corrections, scantlings, etc. (corrected)	54.27
				Summer Freeboard =	137.00

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

Tropical Fresh Water Line above Centre of Disc	13¾	Tropical Fresh Water Freeboard	11.5
Fresh Water Line	7¾	Fresh Water	10.3¼
Tropical Line	6¾	Tropical	10.10
Winter Line below	6¾	Winter	10.10¼
Winter North Atlantic Line	-	Winter North Atlantic	11.11¾

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 at 26'-9" draught = 13880 tons.
Tons per inch = 48.78 tons.
Allowance for keel = 1 1/2"

over

Trade of ship

Names of sister ships

Builder's name and yard number

Short Brothers Limited,

Yard no 484

Owners

Ministry of War Transport

Fee £

18.

Will be charged on F.E.

over



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Foundation