

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index. No. 36420
(For London Office only).

Ship's Name Ricardo Manuel EMPIRE CLIFF	Official Number 164908	Nationality and Port of Registry BRITISH Panama GOOLE	Gross Tonnage 873	Date of Build 1940	Port of Survey
Moulded Dimensions: Length 190'39" Breadth 30'00" Depth 13'50"					Date of Survey 5/11/42
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1405 tons					Surveyor's Signature
Coefficient of fineness for use with Tables .75					Particulars of Classification + 100 A.I.

Depth for Freeboard (D). Moulded depth ... 13'50" Stringer plate03 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 13'53"	Depth correction. (a) Where D is greater than Table depth (D - Table depth) R = + 1'23" (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) Standard Round of Beam = $\frac{B \times 12}{50} =$ Ship's Round of Beam = Difference Restricted to Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) =$ -.02
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure 6'00"
.. overhang R.Q.D. 3'603"
R.Q.D. enclosed ...	120'06	120'06	4'50	✓	120'06	Deduction for complete superstructure 25'04"
.. overhang ...						Percentage covered $\frac{S}{L} =$
Bridge enclosed $\frac{S_1}{L} =$ 72'08
.. overhang aft $\frac{E}{L} =$
.. overhang forward						Percentage from Table, Line A. TIMBER 82.75%
F'cle enclosed ... OPEN	17'16	17'16	7'00	✓	17'16	(corrected for absence of forecastle (if required))
.. overhang ...						Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
.. forward ...						Interpolation for bridge less than .2L (if required)
Tonnage opening aft ...						Deduction = 25'04" x .8275 = -20'72"
.. forward						
Total ...	137'22	137'22			137'22	

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	
A.P. ...		1				1		Mean actual sheer aft =
$\frac{1}{4}$ L from A.P. ...		4				4		Mean standard sheer aft =
$\frac{2}{4}$ L ..		2				2		} EXCESS
Amidships ...		4				4		
$\frac{3}{4}$ L from F.P. ...		2				2		Mean actual sheer forward =
$\frac{1}{4}$ L ..		4				4		Mean standard sheer forward =
F.P. ...		1				1		Length of enclosed superstructure forward of amidships =
Total aft of .. = } > .2L

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{.2L} \right) =$ **-3'44"**

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. **-2'86"**

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **18'03"**
Summer freeboard = **4'67"**
Moulded draught (d) = **13'36"**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **3'34" = 3 1/4"**
Addition for Winter North Atlantic Freeboard (if required) = $\frac{d}{3} = 4'44" = 4 1/2"$

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 =

TABULAR FREEBOARD corrected for Flush Deck (if required)
Correction for coefficient

	+	-	
Depth Correction ...	1'23"		
Deduction for superstructures ...		20'72"	
Sheer correction ...		2'86"	
Round of Beam correction02	
Correction for Thickness of Deck amidships	54'00"		
Other corrections, scantlings, etc. ...			
	55'23"	23'60"	+ 31'63"
Summer Freeboard =	54'21"		

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

	153	153	153
TIMBER Tropical Fresh Water Line above Centre of Disc	6"	6"	6"
" Fresh Water Line	6"	6"	6"
" Tropical Line	2 1/2"	6 1/4"	6 1/4"
" Winter Line below	2"	50"	50"
" Winter North Atlantic Line	5 1/4"	133"	133"
" SUMMER LINE ABOVE	2 1/2"	6 1/4"	6 1/4"

	153	153	153
TIMBER Tropical Fresh Water Freeboard	1333	4'4 1/2"	4'4 1/2"
" Fresh Water	1333	4'4 1/2"	4'4 1/2"
" Tropical	1422	4'8"	4'8"
" Winter	1636	5'0 1/2"	5'0 1/2"
" Winter North Atlantic	1619	5'3 3/4"	5'3 3/4"