

Lloyd's Register of Shipping.

 Index No. **37423**
 (For London Office only).

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Tri. Rpt. 12980

Ship's Name "EMPIRE MAC CABE"	Official Number 169174	Nationality and Port of Registry BRITISH NEWCASTLE	Gross Tonnage 9249	Date of Build 1943	Port of Survey TRIESTE
Moulded Dimensions: Length 463'-7 3/4" Breadth 61'-9" Depth 34'-0 1/2" TO CENTER OF RUDDER STOCK					Date of Survey DURING RECONVERSION JAN.-MAY 1946
Moulded displacement at moulded draught = 85 per cent. of moulded depth 18215 tons					Surveyor's Signature C.N. Giammy
Coefficient of fineness for use with Tables .44					Particulars of Classification * 100A1 "CARRYING PETROLEUM IN BULK F.P. ABOVE 150°F."

Depth for Freeboard (D).		Depth correction.	Round of Beam correction.
Moulded depth ...	34'-0 1/2"	(a) Where D is greater than Table depth (D - Table depth) R = (34'-10" - 30'-9 1/2") 3 = +9'-5 7/8"	Moulded Breadth (B) 61'-7 1/2"
Stringer plate06'	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50}$ = 14'-8 1/2"
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		If restricted by superstructures	Ship's Round of Beam = 15'-5"
Depth for Freeboard (D) = 34'-10"			Difference .68
			Restricted to
			Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right)$ = $\frac{.68}{4} \times .5775 = .097$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	102.44	102.44	8'-7"-8'-0"	-	102.44
" overhang ...	0.58	0.29	8'-0"	-	0.29
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	46.84	46.84	8'-0"	-	46.84
" overhang aft ...	2.14	1.60	8'-0"	-	1.60
" overhang forward ...					
F'cle enclosed ...	44.68	44.68	8'-0"	-	44.68
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	196.71	195.88			195.88

Standard Height of Superstructure **4'-5"**

" " R.Q.D. **42"**

Deduction for complete superstructure **42"**

Percentage covered $\frac{S}{L} = 42.43$

" " $\frac{S_1}{L} = 42.225$

" " $\frac{E}{L} = 42.225$

Percentage from Table, Line A. TANKER **33.225**
(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 = **42.225 - 33.225 = -13.95**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	56.37	1		56.37	38.00	43.80	1		43.80
1/2 L from A.P. ...	25.08	4		100.32	21.875	21.875	4		87.50
3/4 L " ...	6.20	2		12.40	6.00	6.00	2		12.00
Amidships ...	-	4		-	-	-	4		-
3/4 L from F.P. ...	12.40	2		24.80	12.25	12.25	2		24.50
1/2 L " ...	50.17	4		200.68	50.125	50.125	4		200.50
F.P. ...	112.73	1		112.73	113.00	113.00	1		113.00
Total ...				507.30					481.30

Mean actual sheer aft =
Mean standard sheer aft = } **DEFICIENT**

Mean actual sheer forward =
Mean standard sheer forward = }

Length of enclosed superstructure forward of amidships = } **DEFICIENT**

" " aft of " = } **SHEER**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{26}{18} (.75 - .2773) = +.68$

If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

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

Depth to Freeboard Deck = **34'-10"**

Summer freeboard = **6'-6 1/4"**

Moulded draught (d) = **27'-4 3/4"**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **6'-8 1/2"**

Addition for Winter North Atlantic Freeboard (if required) = **6'-8 1/2" + 4'-6 1/4" = 11'-5"**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 172.55$

Tons per inch immersion at summer load water line

T = **58.08**

Deduction = $\frac{\Delta}{40T}$ inches = **7'-4 1/2"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.77 + .68}{1.36} = 1.45/1.36$

	+	-
Depth Correction ...	9'-5 1/4"	-
Deduction for superstructures ...	-	13'-9 1/2"
Sheer correction88	7'-0 1/2"
Round of Beam correction ...	7	-0 1/2"
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-3	-6

Summer Freeboard = **80'-0 1/2"**

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

Tropical Fresh Water Line above Centre of Disc ...	4'-4"
Fresh Water Line " " ...	7'-2"
Tropical Line " " ...	6'-3 1/4"
Winter Line below " " ...	6'-3 1/4"
Winter North Atlantic Line " " ...	11'-1 1/2"

Tropical Fresh Water Freeboard ...	5'-5 1/4"
Fresh Water " " ...	6'-0 1/2"
Tropical " " ...	6'-1 1/4"
Winter " " ...	7'-2 3/4"
Winter North Atlantic " " ...	7'-4 1/2"

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.

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £

B.



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Foundation