

- 8 JUL 1941

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name MOTOR COASTER "EMPIRE BANK"	Official Number 167107	Nationality and Port of Registry BRITISH HULL	Gross Tonnage 402	Date of Build 1941	Port of Survey HULL
Moulded Dimensions: Length 140.33' Breadth 26.0' Depth 11.0' To CTR. OF RUDDER STOCK.					Date of Survey WHILE BUILDING AT HESSLE.
Moulded displacement at moulded draught = 85 per cent. of moulded depth T.P. INCH 7.40 tons					Surveyor's Signature <i>[Signature]</i>
Coefficient of fineness for use with Tables .735					Particulars of Classification * 100. A.1. (CONTEMPLATED).

Depth for Freeboard (D). Moulded depth ... 11.0 Stringer plate .34" MAIN DECK .34" DECK COMPOSITION Sheathing on exposed deck POOP DECK 2" THICK BY WAILES DOVE CO. LTD. $T \left(\frac{L-S}{L} \right) =$ ✓ Depth for Freeboard (D) = 11.03	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(11.03 - 9.35) \times 1.079 = +1.81"$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ ✓ If restricted by superstructures ✓	Round of Beam correction. Moulded Breadth (B) 26.0 Standard Round of Beam = $\frac{B \times 12}{50} =$ 6.24" Ship's Round of Beam = 6 1/2" Difference Excess = .26" Restricted to ✓ Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.26}{4} \times .6009 = -.04"$
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DEDUCTION FOR SUPERSTRUCTURES.

* COMBINED BRIDGE AND POOP.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
* Poop enclosed Equiv. FRONT ROUNDED	32'-0" 41.5	42.50	6'-9"	✓	42.50
" overhang	12"		✓		
R.Q.D. enclosed	✓		✓		
" overhang	✓		✓		
* Bridge enclosed	9'-6"		8'-6"	✓	
" overhang aft	✓		✓		
" overhang forward	✓		✓		
F'cle enclosed To FORE PERP	13'-6" 13.5	13.50	6'-0" HFT. 5-3" FORD	5.25/6.00	11.81
" overhang	✓		✓		
Trunk aft	✓		✓		
" forward	✓		✓		
Tonnage opening aft	✓		✓		
" " forward	✓		✓		
Total	56.0	56.00			54.31

Standard Height of Superstructure	6.00
" " R.Q.D.	✓
Deduction for complete superstructure	20.03
Percentage covered $\frac{S}{L} =$	39.91
" " $\frac{S_1}{L} =$	39.91
" " $\frac{E}{L} =$	38.71
Percentage from Table, Line A.	22.40
(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 =	20.03 x .2240 = -4.49"

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	24.03	1	24.03	27"	27.00	1	27.00		
1/4 L from A.P. ...	10.695	4	42.78	10 1/4"	10.25	4	41.00		
1/2 L " ...	2.645	2	5.29	2 3/4"	2.75	2	5.50		
Amidships ...	-	4	-	NIL	-	4	-		
3/4 L from F.P. ...	5.29	2	10.58	6"	6.00	2	12.00		
1/4 L " ...	21.385	4	85.54	25"	25.00	4	100.00		
F.P. ...	48.07	1	48.07	60"	60.00	1	60.00		
Total ...			216.29				245.50		

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{29.21}{18} (.75 - .1995) = -.89"$$

If limited on account of midship superstructure. **Yes, no allowance.**Mean actual sheer aft = **Excess**
Mean standard sheer aftMean actual sheer forward = **Excess**
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = **Nie.**

Aft sheer			aft of		=
24.03	1	24.03	2.7	1	27.0
10.695	3	32.09	10.25	3	30.75
2.645	3	7.94	2.75	3	8.25
		64.06			66.00

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 = 11.03 Summer freeboard = 1.00 Moulded draught (d) = 10.03 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 2.51 = 2 1/2" Addition for Winter North Atlantic Freeboard (if required) = 4 1/2"	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 783 Tons per inch immersion at summer load water line $T =$ 7.54 Deduction = $\frac{\Delta}{40T}$ inches = 2 1/2" MLO DRAFT 10'-0" EXT DISPL 780 T.P. INCH 7.53 9'-5" 734 7.40 9'-0" 690 7.37	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient .735 + .68 = 1.415 / 1.36 <table border="1"> <tr> <th></th><th>+</th><th>-</th></tr> <tr> <td>Depth Correction</td><td>1.81</td><td>-</td></tr> <tr> <td>Deduction for superstructures</td><td>-</td><td>4.49</td></tr> <tr> <td>Sheer correction</td><td>-</td><td>-</td></tr> <tr> <td>Round of Beam correction</td><td>-</td><td>.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>-</td></tr> <tr> <td></td><td>1.81</td><td>4.53</td></tr> </table> Summer Freeboard = 12.09		+	-	Depth Correction	1.81	-	Deduction for superstructures	-	4.49	Sheer correction	-	-	Round of Beam correction	-	.04	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	-		1.81	4.53
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc	5"
Fresh Water Line	2 1/2"
Tropical Line	2 1/2"
Winter Line below	2 1/2"
Winter North Atlantic Line	4 1/2"

Tropical Fresh Water Freeboard	1'-0"
Fresh Water	0'-9 1/2"
Tropical	0'-9 1/2"
Winter	1'-2 1/2"
Winter North Atlantic	1'-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.

Boob equivalent bulkhead
Length at side 41'-10"
 $+ \frac{2}{3} \times 12"$

0-8"
~~*4-24"*~~
4-6"

MOTOR COASTER
 "EMPIRE BANK"

Moulded dimensions: Length 140.33
 To C.T. of RUBBER STOCK

DECK COMPOSITION
 BY WALLIS DOWS CO. LTD.
 POP DECK 2" THICK

Surveyor

Trade of ship COASTER
 Names of sister ships "EMPIRE ISLE"
 Builder's name and yard number MESSRS. HENRY SCARR LTD., N° 417.
 Owners ADMIRALTY.
 Fee £