

Empire Mavis
Empire Panther 2793

Lloyd's Register of Shipping.

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(For London Office only).

SURVEYS FOR FREEBOARD.

-2 JUL 1941

Jan Van Goyen

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name EMPIRE MAVIS "WEST RARITANS"	Official Number 168760	Nationality and Port of Registry British London	Gross Tonnage 5703	Date of Build 1919 - 10	Port of Survey Norfolk, Va.
Moulded Dimensions: Length 410.46 Breadth 54.0 Depth 30.10					Date of Survey 11th Feb., 5th Apr. 1941
Moulded displacement at moulded draught = 85 per cent. of moulded depth 25.67' 13140 tons (same sister ship)					Surveyor's Signature <i>J.B. Buchanan</i>
Coefficient of fineness for use with Tables .808					Particulars of Classification 3.21 Reclassification contemplated

Depth for Freeboard (D). Moulded depth ... 30.10 Stringer plate04 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ 4 Depth for Freeboard (D) = 30.20	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(30.20 - 27.36) \times 3 = +8.64"$ 2.88 (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) 54.0 Standard Round of Beam = $\frac{B \times 12}{50} =$ 12.96 Ship's Round of Beam = 13.50 Difference .54 Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.54}{4} \times 49.82 = -.07"$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	44.00	44.00	8.5	✓	44.00	Standard Height of Superstructure 7.5'
" overhang ...	-	-	-	-	-	" " R.Q.D. ✓
R.Q.D. enclosed ...	-	-	-	-	-	Deduction for complete superstructure 42.00"
" overhang ...	-	-	-	-	-	Percentage covered $\frac{S}{L} =$ 50.18
Bridge enclosed ...	115.00	115.00	8.5	✓	115.00	" " $\frac{S_1}{L} =$ 50.18
" overhang aft ...	-	-	-	-	-	" " $\frac{E}{L} =$ 50.18
" overhang forward ...	-	-	-	-	-	Percentage from Table, Line A. ✓
F'cle enclosed ...	47.00	47.00	8.5	✓	47.00	(corrected for absence of forecabin (if required)) ✓
" overhang ...	-	-	-	-	-	Percentage from Table, Line B. 36.18
Trunk aft ...	-	-	-	-	-	(corrected for absence of forecabin (if required)) ✓
" forward ...	-	-	-	-	-	Interpolation for bridge less than 2L (if required) ✓
Tonnage opening aft ...	-	-	-	-	-	Deduction = $42.00 \times .36.18 = -15.20"$
" " forward ...	-	-	-	-	-	
Total ...	206.00	206.00			206.00	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	51.04	1		51.04	51.50	51.50	1		51.50	Mean actual sheer aft =
$\frac{1}{2}$ L from A.P. ...	22.71	4		90.84	7.50	7.50	4		30.00	Mean actual sheer forward = Excess
$\frac{1}{2}$ L " ...	5.615	2		11.23	-5.25	-5.25	2		-10.50	Mean standard sheer forward
Amidships ...	-	4		-	0	-	4		-	Length of enclosed superstructure forward of amidships =
$\frac{1}{2}$ L from F.P. ...	11.23	2		22.46	14.5	11.23	2		22.46	Aft sheer
$\frac{1}{2}$ L " ...	45.42	4		181.68	51.00	45.42	4		181.68	Standard
F.P. ...	102.09	1		102.09	124.00	102.09	1		102.09	aft of
Total ...				459.34					377.23	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{82.11}{18} \left(\frac{75-25.09}{2 \times 410.46} \right) = +2.28"$
 If limited on account of midship superstructure. **.4991** If limited to maximum allowance of $\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 30.24 Summer freeboard = 6.46 Moulded draught (d) = 23.78 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 5.95 = 6" Addition for Winter North Atlantic Freeboard (if required) = ✓	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 12100 Tons per inch immersion at summer load water line $T =$ 46.31 Deduction = $\frac{\Delta}{40T}$ inches = 6.53 6.1"	TABULAR FREEBOARD corrected for Fresh Deck (if required) Correction for coefficient .808 + .68 = 1.488 / 1.36 Depth Correction ... 8.64 Deduction for superstructures ... 15.20 Sheer correction ... 2.18 Round of Beam correction07 Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... Summer Freeboard = 77.42	74.74 81.77 87.8 3-7-41 4.35 77.42
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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	12.1/2"	17
Fresh Water Line	6.1/2"	15
Tropical Line	6"	15
Winter Line below	6"	15
Winter North Atlantic Line	✓	

Tropical Fresh Water Freeboard	6'-5 1/2"
Fresh Water	5'-5"
Tropical	5'-11"
Winter	5'-11 1/2"
Winter North Atlantic	6'-11 1/2"

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the Surveyor should endorse the form on this side with his signature and the date.

Exs. \$31.00

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