

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

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ARKADIA

Ship's Name ex NEW AUSTRALIA.	Official Number 162650.	Nationality and Port of Registry BRITISH. LONDON.	Gross Tonnage	Date of Build 1931-11.	Port of Survey
Moulded Dimensions: Length 550' Breadth 76'-6" Depth 43'-3 1/2"					Date of Survey 16.3.50.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 32065. tons					Surveyor's Signature
Coefficient of fineness for use with Tables 725.					Particulars of Classification

DEPTH FOR FREEBOARD (D).

Moulded depth ... **43.29.**
Stringer plate ... **.03.**
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = **43.32.**

DEPTH CORRECTION.

(a) Where D is greater than Table depth
(D - Table depth) R =
(43.32 - 36.67) 3 = +19.95
(b) Where D is less than Table depth (if allowed)
(Table depth - D) R = **6.65**
If restricted by superstructures **✓**

ROUND OF BEAM CORRECTION.

Moulded Breadth (B) **76.5'**
Standard Round of Beam = $\frac{B \times 12}{50} =$ **18.36.**
Ship's Round of Beam = **5.00.**
Difference **13.36.**
Restricted to
Correction = $\frac{\text{Diff}^c}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{13.36}{4} \times 0.950 = +3.21$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	497.75	497.75	8'-0"	✓	497.75
" overhang aft					
" overhang forward					
Fore enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	497.75	497.75			497.75

Standard Height of Superstructure **7'-6"**
" " R.Q.D. **✓**
Deduction for complete superstructure **42.00.**
Percentage covered $\frac{S}{L} =$
" $\frac{S_1}{L} =$ **90.50**
" $\frac{E}{L} =$
Percentage from Table, Line A. & B **88.31.**
(corrected for absence of forecastle (if required))
Percentage from Table, Line A. & B **88.31.**
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required)
Deduction = **42.00 × .8831 = -37.09.**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	65.00	1		65.00	49.50	49.50	1		49.50
1/2 L from A.P.	28.93	4		115.72	21.72	21.72	4		86.88
1/2 L	7.15	2		14.30	5.43	5.43	2		10.86
Amidships	✓	4		✓	✓	✓	4		✓
1/2 L from F.P.	14.30	2		28.60	13.67	13.67	2		27.34
1/2 L	57.85	4		231.40	54.70	54.70	4		218.80
F.P.	130.00	1		130.00	107.50	107.50	1		107.50
Total			✓	585.02					500.88

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{S}{2L} \right) = \frac{84.14}{18} \left(\frac{.75 - .4525}{2L} \right) = +1.39$
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 = **43.32.**
Summer freeboard = **17.15**
Moulded draught (d) = **26.17.**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **6.54 = 6 1/2"**

Addition for Winter North Atlantic Freeboard (if required) = **✓**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =
Tons per inch immersion at summer load water line

T =
Deduction = $\frac{\Delta}{40 T}$ inches = **6 1/2"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.681 \cdot 725}{1.36} = \frac{1.405}{1.36}$

	+	-
Depth Correction	19.95	✓
Deduction for superstructures	✓	37.09
Sheer correction	1.39	✓
Round of Beam correction	.32	✓
Correction for Thickness of Deck amidships	1.06	✓
Other corrections, scantlings, etc. corresponding to ALL SEASONS MOULDED DRAUGHT OF 26'-2"	100.43	✓
	122.57	37.09
Summer Freeboard =	205.75	88

ALL SEASONS. SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ... **6 1/2"**
Fresh Water Line " " ... **6 1/2"**
Tropical Line " " ... **NIL.**
Winter Line below " " ... **NIL.**
Winter North Atlantic Line " " ... **✓**

Tropical Fresh Water Freeboard ... **17'-1 7/8"**
Fresh Water " " ... **16'-7 3/8"**
Tropical " " ... **16'-7 3/8"**
Winter " " ... **17'-1 7/8"**
Winter North Atlantic " " ... **17'-1 7/8"**