

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name MARI II	Official Number 165994	Nationality and Port of Registry British, Glasgow	Gross Tonnage 1395	Date of Build 1918	Port of Survey
Moulded Dimensions: Length 237.5 Breadth 37.01 Depth 20.00					Date of Survey 11.2.41.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 3100 tons					Surveyor's Signature
Coefficient of fineness for use with Tables 726.					Particulars of Classification Class contemplated.

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ...	(a) Where D is greater than Table depth (D - Table depth) R =	Moulded Breadth (B)
Stringer plate ...	+ 7.69	Standard Round of Beam = $\frac{B \times 12}{50} =$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Ship's Round of Beam =
Depth for Freeboard (D) =	If restricted by superstructures	Difference
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \text{Nil.}$

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 ...	57.42		7.0		
„ overhang aft ...					
„ overhang forward					
F'cle enclosed ...	28.51		7.0		
„ overhang ...	73				
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward					
Total ...	86.67				

Standard Height of Superstructure **6.0'**
„ „ R.Q.D. **✓**
Deduction for complete superstructure **29.75"**
Percentage covered $\frac{S}{L} =$
„ $\frac{S_1}{L} =$
„ $\frac{E}{L} =$ **36.34**
Percentage from Table, Line A. **Timber 59.06**
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. **Roof 59.63.5 = 54.06**
(corrected for absence of forecastle (if required)) **✓**
Interpolation for bridge less than 2L (if required) **✓**
Deduction = **29.75 x 54.06 = 16.08**

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...		1				1	
$\frac{1}{8}L$ from A.P. ...		4				4	
$\frac{2}{8}L$ „ ...		2				2	
Amidships ...		4				4	
$\frac{3}{8}L$ from F.P. ...		2				2	
$\frac{1}{2}L$ „ ...		4				4	
F.P. ...		1				1	
Total ...							

Mean actual sheer aft =
Mean standard sheer aft =
Mean actual sheer forward =
Mean standard sheer forward =
Length of enclosed superstructure forward of amidships =
„ „ aft of „ =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ **+ 1.88**
If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient
Depth to Freeboard Deck = 20.04	$\Delta =$ 3327.	Depth Correction ... 7.69
Timber Summer freeboard = 2.01	Tons per inch immersion at summer load water line	Deduction for superstructures ... 16.08
Moulded draught (d) = 18.02	$T =$ 18.03	Sheer correction ... 1.88
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4.50 = 4½	Deduction = $\frac{\Delta}{40T}$ inches = 4.61	Round of Beam correction ...
Addition for Winter North Atlantic Freeboard (if required) = $\frac{d}{3} = 6.00 = 6"$	= 4½"	Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ...
		9.57 16.08 - 6.51 -
		Summer Freeboard = 24.37

Timber SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-	Timber Tropical Fresh Water Line above Centre of Disc ... 18"	Timber Tropical Fresh Water Freeboard ...
Timber Fresh Water Line „ ... 13½"	„ Fresh Water „ ... 1' - 7¾"	
Timber Tropical Line „ ... 13½"	„ Tropical „ ... 1' - 7¾"	
Timber Winter Line „ ... 3"	„ Winter „ ... 2' - 6¾"	
Timber Winter North Atlantic Line „ ... 6½"	„ Winter North Atlantic „ ... 3' - 3½"	
Timber Summer above „ 9"		