

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "MISOA"	Official Number	Nationality and Port of Registry PANAMA	Gross Tonnage 4209	Date of Build 1937	Port of Survey New York
Moulded Dimensions: Length 365.25' Breadth 64.00' Depth 18.00'					Date of Survey March 14, 1946
Moulded displacement at moulded draught = 85 per cent. of moulded depth 8575 tons					Surveyor's Signature
Coefficient of fineness for use with Tables .839 x					Particulars of Classification +100A1 "Carrying Petroleum in Bulk"
Depth for Freeboard (D). Moulded depth ... 18.00 x Stringer plate ... .04 x Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 18.04		Depth correction. (a) Where D is greater than Table depth (D—Table depth) R= (b) Where D is less than Table depth (if allowed) (Table depth—D) R= (24.35-18.04) 2.809 = -17.72 ✓ If restricted by superstructures		Round of Beam correction. Moulded Breadth (B) 64.00 Standard Round of Beam = $\frac{B \times 12}{50} =$ 15.36 Ship's Round of Beam = 15.375 Difference Excess .015 ✓ Restricted to Correction = $\frac{\text{Diff}^o}{4} \times \left(1 - \frac{S_1}{L} \right) =$.015 x .2682 4 .011	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	88.75	88.75	8-0	-	88.75
" overhang ...	.5	.25	-	-	.25
R.Q.D. enclosed ...	-	-	-	-	-
" overhang ...	-	-	-	-	-
Bridge enclosed ...	36.00	36.00	8-0	-10-6	36.00
" overhang aft ...	.25	.19	-	-	.19
" overhang forward ...	.25	.12	-	-	.12
F'cle enclosed ...	36.5	36.5	8-0	-	36.50
" overhang ...	.25	.12	-	-	.12
Trunk aft ...	-	70.64	8-0	-	70.64
" forward ...	-	34.69	8-0	-	34.69
Tonnage opening aft ...	-	-	-	-	-
" " forward ...	-	-	-	-	-
Total ...	162.50	267.26	-	-	267.26

Standard Height of Superstructure **7.15** ✓
" " R.Q.D. **-**
Deduction for complete superstructure **39.68**
Percentage covered $\frac{S}{L} =$ **44.49**
" " $\frac{S_1}{L} =$ **73.18**
" " $\frac{E}{L} =$ **73.18**
Percentage from Table, Line A **66.91**
(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 = **39.68 x .6691 = -26.55** ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	46.52	1	1	46.52	47.625	47.625	1	1	47.625
1/2 L from A.P. ...	20.70	4	4	82.80	20.25	20.25	4	4	81.00
1/2 L " ...	5.12	2	2	10.24	4.625	4.625	2	2	9.25
Amidships ...	0	4	4	0	0	0	4	4	0
1/2 L from F.P. ...	10.24	2	2	20.48	10.25	10.25	2	2	20.50
1/2 L " ...	41.41	4	4	165.64	41.625	41.625	4	4	166.50
F.P. ...	93.05	1	1	93.05	98.75	98.75	1	1	98.75
Total ...				418.73					423.625

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{4.895}{18} (.75 - .2225) = -.14$ ✓
If limited on account of midship superstructure. If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Mean actual sheer aft = **Deficient 75% Standard** ✓
Mean standard sheer aft
Mean actual sheer forward = **Excess** ✓
Mean standard sheer forward
Length of enclosed superstructure forward of amidships = } **Tanker** ✓
" " aft of " = }

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 18.6 Summer freeboard = 1.40 Moulded draught (d) = 16.64 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4.13 = 4 1/4 ✓ Addition for Winter North Atlantic Freeboard (if required) = 3.85 + 4.16 = 8.01 ✓ 4.13	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line T = Deduction = $\frac{\Delta}{40T}$ inches d/4 = 1 1/4	TABULAR FREEBOARD corrected for Flush Deck (if required) 54.66 Correction for coefficient. $\frac{.839 \times 4.68}{1.36} = \frac{1.529}{1.36}$ Depth Correction ... 17.72 Deduction for superstructures ... 26.55 Sheer correction14 Round of Beam correction ... Correction for Thickness of Deck amidships Other corrections, scantlings, etc. ... Summer Freeboard = 16.64
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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 ...	8 1/2"	Tropical Fresh Water Freeboard ...	0' 8 1/2"
Fresh Water Line " " ...	4 1/2"	Fresh Water " " ...	1' 0 1/2"
Tropical Line " " ...	4 1/2"	Tropical " " ...	1' 0 1/2"
Winter Line below " " ...	4 1/2"	Winter " " ...	1' 9 1/2"
Winter North Atlantic Line " " ...	7 1/2"	Winter North Atlantic " " ...	2' 0 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..... **"BACHAQUERO"** **"TASAJERA"**

Builder's name and yard number..... **Furness Shipbuilding Co. Yard No. 267**

Owners

Fee £.....



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Foundation