

AMENDED.
T.O. CLOSED.

Index No. _____
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name HAKUBASAN MARU.	Official Number 65109	Nationality and Port of Registry JAPAN. Tokyo.	Gross Tonnage 6678.09	Date of Build 1949.	Port of Survey _____
Moulded Dimensions: Length 401.18 ✓ Breadth 57.74 ✓ Depth 35.11 ✓					Date of Survey 20.4.51
Moulded displacement at moulded draught = 85 per cent. of moulded depth 14647 ✓ tons					Surveyor's Signature _____
Coefficient of fineness for use with Tables .741 ✓					Particulars of Classification +100 A1. With FREEBOARD.

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... 35.11 ✓	(a) Where D is greater than Table depth (D - Table depth) / R = (35.24 - 26.74) / 3 = +25.50 ✓	Moulded Breadth (B) 57.74 ✓
Stringer plate 20mm.07 ✓	(b) Where D is less than Table depth (if allowed) (Table depth - D) / R = 8.50 / 3 = +2.83 ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \mathbf{13.86}$ ✓
Sheathing on exposed deck 65mm. $T \left(\frac{L-S}{L} \right) = \frac{2.56 \times 104}{12 \times 401.18} = \mathbf{.06}$ ✓	If restricted by superstructures ✓	Ship's Round of Beam = 13.78 ✓
Depth for Freeboard (D) = 35.24 ✓		Difference = .08 ✓
		Restricted to _____
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.08}{4} \times .9244 = \mathbf{+.02}$ ✓

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure 7.50 ✓
" overhang ...						" " R.Q.D. ✓
R.Q.D. enclosed ...						Deduction for complete superstructure 42.00 ✓
" overhang ...						Percentage covered $\frac{S}{L} = \mathbf{.756}$ ✓
Bridge enclosed ...						" " $\frac{S_1}{L} = \mathbf{.728}$ ✓
" overhang aft ...						" " $\frac{E}{L} = \mathbf{.728}$ ✓
" overhang forward ...						Percentage from Table, Line A. 3.64 ✓
Fore enclosed 29mm. ... 30.34 ✓	30.34 ✓	30.34 ✓	7.22 ✓	7.22/7.50 ✓	29.21 ✓	(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, Line B. ✓
Trunk aft ...						(corrected for absence of forecastle (if required)) ✓
" forward ...						Interpolation for bridge less than .2L (if required) ✓
Tonnage opening aft ...						Deduction = .0364 × 42.00 = -1.53 ✓
" forward ...						
Total ...	30.34	30.34			29.21 ✓	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	50.12 ✓	1		50.12 ✓	51.18 ✓	51.18 ✓	1		51.18 ✓	Mean actual sheer aft = Sufficient
$\frac{1}{2}L$ from A.P. ...	22.30 ✓	4		89.20 ✓	21.65 ✓	21.65 ✓	4		86.60 ✓	Mean actual sheer forward = Sufficient
$\frac{1}{2}L$ " ...	5.51 ✓	2		11.02 ✓	5.63 ✓	5.63 ✓	2		11.26 ✓	Mean standard sheer forward = Sufficient
Amidships ...	-	4		-	-	-	4		-	Length of enclosed superstructure forward of amidships = NIL
$\frac{1}{2}L$ from F.P. ...	11.025 ✓	2		22.05 ✓	9.80 ✓	9.80 ✓	2		19.60 ✓	" " aft of " = NIL
$\frac{1}{2}L$ " ...	44.60 ✓	4		178.40 ✓	40.91 ✓	40.91 ✓	4		163.64 ✓	
F.P. ...	100.24 ✓	1		100.24 ✓	102.36 ✓	102.36 ✓	1		102.36 ✓	
Total ...				451.03 ✓					434.64 ✓	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{16.39}{18} \times \left(\frac{.75 - .0378}{.75} \right) = \mathbf{+.65}$ ✓

If limited on account of midship superstructure. ✓

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **35.33** ✓

Summer freeboard = **9.14** ✓

Moulded draught (d) = **26.25** ✓

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **6.56 = 6½"** ✓Addition for Winter North Atlantic Freeboard (if required) = **1.65** ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Tons per inch immersion at summer load water line

Deduction = $\frac{\Delta}{40 T}$ inches= $\frac{1}{4} \times 1.65 = \mathbf{.41}$ ✓

TABULAR FREEBOARD (corrected for Flush Deck (if required))

Correction for coefficient

$\frac{.741 + .68}{1.36} = \mathbf{1.421}$ ✓

$\frac{1.36}{1.36} = \mathbf{1.00}$ ✓

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. considered

Summer Freeboard = **109.68** ✓

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line " "

Tropical Line " "

Winter Line below " "

Winter North Atlantic Line " "

Tropical Fresh Water Freeboard

Fresh Water " "

Tropical " "

Winter " "

Winter North Atlantic " "

2785 ✓

2455 ✓

2620 ✓

2620 ✓

2950 ✓

2950 ✓

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Lloyd's Register
Foundation

Hakubasan Maru.

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.

$$\begin{array}{r} \text{Length of Foreck} = 30.51 \\ - .17 \\ \hline 30.34 \end{array}$$

$$\text{Recen} = \frac{5.5 \times 722 \times 2.75}{2 \times 722 \times 44} = .17$$

Trade of ship _____

Names of sister ships _____

Builder's name and yard number _____

Owners _____

Fee £ _____