

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "NICHINAN MARU"	Official Number	Nationality and Port of Registry JAPAN. Tokyo MAIZURU.	Gross Tonnage 5296	Date of Build 1942 9ms.	Port of Survey
Moulded Dimensions: Length <u>120.760 ms</u> Breadth <u>16.300 ms</u> Depth <u>9.016</u> <u>To centre of Rudder Stock.</u>					Date of Survey <u>20.7.50</u>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>10927</u> tons					Surveyor's Signature
Coefficient of fineness for use with Tables <u>.718</u>					Particulars of Classification <u>100A1</u> <u>Carrying Petroleum in Bulk.</u> <u>(Contemplated)</u>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth <u>9.016</u>	(a) Where D is greater than Table depth (D - Table depth) B = <u>833(9.033 - 8.051)30 = +245 mms</u>	Moulded Breadth (B) <u>16.300</u>
Stringer plate <u>.017</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>.982</u>	Standard Round of Beam = $\frac{B^2}{50} = \frac{16.300^2}{50} = 326$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures <input checked="" type="checkbox"/>	Ship's Round of Beam = <u>330</u>
Depth for Freeboard (D) = <u>9.033</u>		Difference <u>+ 4 mms</u>
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{4^2}{4} \times .4645 = 1.14$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<u>35.190</u>	<u>35.190</u>	<u>2.30</u>	<input checked="" type="checkbox"/>	<u>35.190</u>
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	<u>11.040</u>	<u>11.040</u>	<u>2.30</u>	<input checked="" type="checkbox"/>	<u>11.040</u>
" overhang aft	<u>2.880</u>	<u>2.160</u>			<u>2.160</u>
" overhang forward					
F'cle enclosed	<u>16.270</u>	<u>16.270</u>	<u>2.30</u>	<input checked="" type="checkbox"/>	<u>16.270</u>
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<u>65.380</u>	<u>64.660</u>			<u>64.660</u>

Standard Height of Superstructure	<u>2.278</u>
" R.Q.D.	<input checked="" type="checkbox"/>
Deduction for complete superstructure	<u>1060</u>
Percentage covered $\frac{S}{L} =$	<u>54.14</u>
" $\frac{S_1}{L} =$	<u>53.55</u>
" $\frac{E}{L} =$	
Percentage from Table, Line <u>E Tanker</u>	<u>44.91</u>
(corrected for absence of forecastle (if required))	<input checked="" type="checkbox"/>
Percentage from Table, Line B.	<input checked="" type="checkbox"/>
(corrected for absence of forecastle (if required))	<input checked="" type="checkbox"/>
Interpolation for bridge less than .2L (if required)	<input checked="" type="checkbox"/>
Deduction = <u>1060</u> \times <u>.4491</u>	<u>= 476 mms.</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>1260</u>	<input checked="" type="checkbox"/>	1	<u>1260</u>	<u>1000</u>	<u>1000</u>	<input checked="" type="checkbox"/>	1	<u>1000</u>
$\frac{1}{8}L$ from A.P.	<u>560</u>	<input checked="" type="checkbox"/>	4	<u>2240</u>	<u>.090</u>	<u>90</u>	<input checked="" type="checkbox"/>	4	<u>360</u>
$\frac{2}{8}L$ "	<u>140</u>	<input checked="" type="checkbox"/>	2	<u>280</u>	—	—		2	—
Amidships	—		4	—	—	—		4	—
$\frac{6}{8}L$ from F.P.	<u>280</u>	<input checked="" type="checkbox"/>	2	<u>560</u>	—	—		2	—
$\frac{7}{8}L$ "	<u>1120</u>	<input checked="" type="checkbox"/>	4	<u>4480</u>	<u>320</u>	<u>320</u>	<input checked="" type="checkbox"/>	4	<u>1280</u>
F.P.	<u>2520</u>	<input checked="" type="checkbox"/>	1	<u>2520</u>	<u>2000</u>	<u>2000</u>	<input checked="" type="checkbox"/>	1	<u>2000</u>
Total				<u>11340</u>					<u>4640</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{6700}{18} \left(.75 - \frac{2707}{2000} \right) = +178 \text{ mms.}$

If limited on account of midship superstructure. .4793

Mean actual sheer aft = Deficient

Mean standard sheer aft = Deficient

Mean actual sheer forward = Deficient

Mean standard sheer forward = Deficient

Length of enclosed superstructure forward of amidships = Deficient

 " aft of " = Sheers.

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 $\frac{.718 + .68}{1.36} = \frac{1.398}{1.36}$	<u>1565</u>
Depth to Freeboard Deck = <u>9.033</u>	$\Delta = 10,700$		<u>1609</u>
Summer freeboard = <u>1.556</u>	Tons per inch immersion at summer load water line	Depth Correction <u>245</u>	
Moulded draught (d) = <u>7.477</u>	T = <u>42.05</u>	Deduction for superstructures <u>476</u>	
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40 T}$ inches	Sheer correction <u>178</u>	
Winter freeboard = $\frac{d \text{ mms.}}{48 \text{ inches}} = 156 \text{ mms.}$	= <u>6.36</u>	Round of Beam correction	
Addition for Winter North Atlantic Freeboard (if required) = <u>156 + 99 = 255 mms.</u>	= <u>162 mms.</u>	Correction for Thickness of Deck amidships	
		Other corrections, scantlings, etc.	
		<u>423</u>	<u>- 53</u>
		Summer Freeboard = <u>1556</u>	

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

Tropical Fresh Water Line above Centre of Disc	<u>318 mms</u>	Tropical Fresh Water Freeboard	<u>1238</u>
Fresh Water Line " "	<u>162</u>	Fresh Water " "	<u>1394</u>
Tropical Line " "	<u>156</u>	Tropical " "	<u>1400</u>
Winter Line below " "	<u>156</u>	Winter " "	<u>1712</u>
Winter North Atlantic Line " "	<u>255</u>	Winter North Atlantic " "	<u>1811</u>

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.

Bridge at Side 10.080
2/3 x 1-40 .960

11.040 = Equiv length

Trade of ship _____

Names of sister ships _____

Builder's name and yard number _____

Owners _____

Fee £ _____



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Foundation