

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>FUJI MARU.</b>	Official Number <b>63992</b>	Nationality and Port of Registry <b>JAPAN TOKIO</b>	Gross Tonnage <b>3628.52</b>	Date of Build <b>July 1949.</b>	Port of Survey _____ Date of Survey <b>29/6/50.</b> Surveyor's Signature _____ Particulars of Classification _____
Moulded Dimensions: Length <b>105.24</b> Breadth <b>15.5</b> Depth <b>8.0</b> <i>CR OF RUDDER STOCK.</i>					
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>7958</b> <i>M<sup>3</sup> tons</i>					
Coefficient of fineness for use with Tables <b>.718</b>					

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. <b>8.000</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>8.33(8.016-7.016)26.58 = + 221 m/m.</b>	Moulded Breadth (B) <b>15.500</b>
Stringer plate ... .. <b>.016</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓	Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>310</b>
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Ship's Round of Beam = <b>310</b>
Depth for Freeboard (D) = <b>8.016</b>		Difference = <b>NIL.</b>
		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L}\right) =$ <b>NIL.</b>

**DEDUCTION FOR SUPERSTRUCTURES.**

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ... ..	<b>5.730</b>	<b>5.730</b>	<b>2.150</b>	<b>2122</b>	<b>5.730</b>	Standard Height of Superstructure <b>2122.</b> " " R.Q.D. ✓ Deduction for complete superstructure <b>974.</b>
" overhang ... ..						
R.Q.D. enclosed ... ..						Percentage covered $\frac{S}{L} =$ } <b>57.96.</b> " " $\frac{S_1}{L} =$ } " " $\frac{E}{L} =$ } <b>57.88</b>
" overhang ... ..						
Bridge enclosed <i>Equip.</i> ... ..	<b>46.666</b>	<b>46.666</b>	<b>2.400</b>	<b>2122</b>	<b>46.666</b>	Percentage from Table, Line A. (corrected for absence of forecastle (if required))
" overhang aft ... ..						
" overhang forward ... ..						Percentage from Table, Line B. <b>43.88.</b> (corrected for absence of forecastle (if required))
Fore enclosed ... ..	<b>8.600</b>	<b>8.600</b>	<b>2.100</b>	$\frac{2100}{2122}$	<b>8.511</b>	
" overhang ... ..						Interpolation for bridge less than .2L (if required)
Trunk aft ... ..						
" forward ... ..						Deduction = <b>974 x .4388</b> <b>-427 m/m.</b>
Tonnage opening aft ... ..						
" " forward ... ..						
Total ... ..	<b>60.996</b>	<b>60.996</b>			<b>60.907</b>	

**SHEER CORRECTION.**

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	
A.P. ... ..	<b>1131</b>	<b>1</b>	<b>1131</b>	<b>1150</b>	<b>1131</b>	<b>1</b>	<b>1131</b>	Mean actual sheer aft = <i>Excess</i> Mean standard sheer aft =
$\frac{1}{2}L$ from A.P. ... ..	<b>502</b>	<b>4</b>	<b>2008</b>	<b>512</b>	<b>502</b>	<b>4</b>	<b>2008</b>	
$\frac{1}{4}L$ " ... ..	<b>126</b>	<b>2</b>	<b>252</b>	<b>122</b>	<b>126</b>	<b>2</b>	<b>252</b>	Mean actual sheer forward = <i>Deficient</i> Mean standard sheer forward =
Amidships ... ..	✓	<b>4</b>	✓	✓	✓	<b>4</b>	✓	
$\frac{3}{4}L$ from F.P. ... ..	<b>251</b>	<b>2</b>	<b>502</b>	<b>253</b>	<b>253</b>	<b>2</b>	<b>506</b>	Length of enclosed superstructure forward of amidships = } <i>Deficient Sheer.</i> " " aft of " = }
$\frac{1}{2}L$ " ... ..	<b>1005</b>	<b>4</b>	<b>4020</b>	<b>1020</b>	<b>1020</b>	<b>4</b>	<b>4080</b>	
F.P. ... ..	<b>2261</b>	<b>1</b>	<b>2261</b>	<b>2040</b>	<b>2040</b>	<b>1</b>	<b>2040</b>	
Total ... ..			<b>10174</b>				<b>10017</b>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75-S}{2L} \right) = \frac{157}{18} \left( \frac{.75-.2898}{4602} \right) = + 4 \text{ m/m.}$   
If limited on account of midship superstructure. If limited to maximum allowance of 1 1/2 ins. per 100 ft.

<b>Deduction for Tropical Freeboard.</b> Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = <b>8.016</b> Summer freeboard = <b>1238</b> Moulded draught (d) = <b>6.778.</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>1.41 m/m</b> Addition for Winter North Atlantic Freeboard (if required) = ✓	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line $T =$ Deduction = $\frac{\Delta}{40 T}$ inches = <b>1.47 m/m</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient $\frac{.718+.68}{1.36} = \frac{1.398}{1.36}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;"></td> </tr> <tr> <td style="text-align: center;">+</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Depth Correction ... ..</td> <td><b>221</b> ✓</td> </tr> <tr> <td>Deduction for superstructures ... ..</td> <td><b>427</b> ✓</td> </tr> <tr> <td>Sheer correction ... ..</td> <td><b>4</b> ✓</td> </tr> <tr> <td>Round of Beam correction ... ..</td> <td>✓</td> </tr> <tr> <td>Correction for Thickness of Deck amidships ... ..</td> <td>✓</td> </tr> <tr> <td>Other corrections, scantlings, etc. ... ..</td> <td>✓</td> </tr> <tr> <td></td> <td style="text-align: center;"><b>225 427 -202</b></td> </tr> </table> Summer Freeboard = <b>1238</b> ✓			+	-	Depth Correction ... ..	<b>221</b> ✓	Deduction for superstructures ... ..	<b>427</b> ✓	Sheer correction ... ..	<b>4</b> ✓	Round of Beam correction ... ..	✓	Correction for Thickness of Deck amidships ... ..	✓	Other corrections, scantlings, etc. ... ..	✓		<b>225 427 -202</b>
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**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Steel~~ Steel, Deck :-**

Tropical Fresh Water Line above Centre of Disc ... <b>288 m/m</b> Fresh Water Line " " ... <b>147 m/m</b> Tropical Line " " ... <b>141 m/m</b> ✓ Winter Line below " " ... <b>141 m/m</b> ✓ Winter North Atlantic Line " " ... ✓	Tropical Fresh Water Freeboard <b>1238 m/m</b> Fresh Water " <b>950 m/m</b> Tropical " <b>1091 m/m</b> ✓ Winter " <b>1097 m/m</b> ✓ Winter North Atlantic " <b>1379 m/m</b> ✓
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