

LLOYD'S REGISTER OF SHIPPING

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

Received
 Index No.
 Govt. Copy
 Owners C11

Ship's Name TSURUMI 742.	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey
Moulded Dimensions: Length 680.00	Breadth 96.00	Depth 48.50			Date of Survey 14/1/57
Freeboard Length 680.00					Surveyor's Signature
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing)					Particulars of Classification +100 A1 C.P.I.B.
Coefficient of fineness for use with Tables .800					(CONTEMPLATED)

DEPTH FOR FREEBOARD (D). Moulded depth 48.50 Stringer plate 1.34" Wood Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) 48.61	DEPTH CORRECTION. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(48.61 - 45.33) 3 = +9.84"$ (b) Where D is less than Table depth (if allowed) (Table depth - D) R = If restricted by superstructures	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 96'-0" Standard Round of Beam = $\frac{B \times 12}{50} = 23.04$ Ship's Round of Beam = 21.67 Difference 1.37 Restricted to Correction = $\frac{\text{Diff.}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.37}{4} \times .675 = +.23"$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	145.41	145.41	8.5'		145.41
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
F'cle enclosed	75.60	75.60	8.0		75.60
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	221.01	221.01			221.01

Standard Height of Superstructure **7.5'**
 " " R.Q.D. **42"**
 Deduction for complete superstructure **42"**
 Percentage covered $\frac{S}{L} =$
 $\frac{S_1}{L} =$
 $\frac{E}{L} =$
 Percentage from Table, Line A. **TANKER 23.50**
 (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 = $.2350 \times 42 = 9.87"$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	78.00	1			18.16	30.16	1		30.16
$\frac{1}{4}L$ from A.P.		4			.59	0.58	4		2.32
$\frac{2}{4}L$		2			0	0	2		0
Amidships	0	4	0	0	0	0	4	0	0
$\frac{2}{4}L$ from F.P.		2			0	0	2		0
$\frac{1}{4}L$		4			1.58	1.58	4		6.32
F.P.	156.00	1			85.06	85.06	1		85.06
Total				702.00					123.86

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 " =
 Difference between sums of products $\left(\frac{S}{2L} \right) = \frac{578.14}{18} \left(\frac{.75 - .1625}{.75} \right) = +18.87"$
 If limited on account of midship superstructure. If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 48.61 Summer freeboard = 12.71 Moulded draught (d) = 35.90 Keel allowance = Extreme draught = Deduction for Tropical freeboard and addition for = Winter freeboard = $\frac{d}{4}$ inches = Addition for Winter North Atlantic Freeboard (if required) =	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 = $\frac{\Delta}{40 T}$ inches	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{68+80}{1.36} = 1.48/1.36$ <table border="1"> <thead> <tr> <th></th> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction</td> <td>9.84</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures</td> <td>-</td> <td>9.87</td> </tr> <tr> <td>Sheer correction</td> <td>18.87</td> <td>-</td> </tr> <tr> <td>Round of Beam correction</td> <td>.23</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>-</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>-</td> <td>-</td> </tr> <tr> <td>28.94</td> <td>9.87</td> <td>+ 19.07</td> </tr> </tbody> </table> Summer Freeboard = 152.48		+	-	Depth Correction	9.84	-	Deduction for superstructures	-	9.87	Sheer correction	18.87	-	Round of Beam correction	.23	-	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	-	28.94	9.87	+ 19.07
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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		Tropical Fresh Water Freeboard	
Fresh Water Line		Fresh Water	
Tropical Line		Tropical	
Winter Line below		Winter	
Winter North Atlantic Line		Winter North Atlantic	

5/680
41.33

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.

Pooh

$$\begin{aligned} \text{Length at side} &= 136.22' \\ + \frac{2}{3} \times 13.78 &= 9.19 \\ \hline &145.41 \end{aligned}$$

Sheer at aft end

$$\begin{aligned} \text{Length of Pooh at side} &= 136.22' \\ \frac{1}{6}L &= 22.89 \end{aligned}$$

$$\begin{array}{r} 6 \overline{) 680} \\ \underline{113.33} \end{array}$$

Sheer at V.A.B.

A.P.
18.16

$\frac{1}{6}L$ from A.P.

0.59

Excess Tween Deck Ht

12.00

$$\left(\frac{22.89}{136.22} \right)^2 \times 12 = .34$$

Sheer at pooh deck

NIL

$$(8-5.65) - (8'-6")$$

$$= -.35"$$

30.16 /

.58

8'-6

7'-6

Handy
maning

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)



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