

30 SEP 1929

J.62

LLOYD'S REGISTER OF SHIPPING.
(CLASSIFICATION SOCIETY RECOGNISED BY THE JAPANESE GOVERNMENT)
SURVEY FOR FREEBOARD.

Ship's Name	Port of Registry	Official No.	No. in R.B.	Gross Tonnage	Tonnage under Fbd. Deck = V	Date of Launch	Date when Built	Report Number
"URAL MARU"	Osaka	--	--	About 6353	About 5081	15/12/28	--	55
Owners		Builders		Yard No.		Port of Survey		
Osaka Shosen Kaisha.		Mitsubishi Zosen Kaisha		452		Nagasaki.		
Type of vessel	Particulars of Classification		Position of Freeboard Deck		Date of Survey			
Complete Superstructure vessel	100 A.1. With Freeboard		2nd deck (upper deck)		While Building.			
					Name of Surveyor			
					G. Anderson & H. J. Cox.			

7
8
D
10

PRINCIPAL DIMENSIONS.

Length between perpendiculars	404.5 ft.	Breadth Moulded = B _o	55.0 ft.	Depth Moulded to Fbd. deck = D _o	25.5 ft.
Length on Load Line	ft.	Thickness of Side plating in ins. x 3/12	ft.	Round of Beam	ft.
		* (2/12 if plating is joggled)		Depth from base line to top of inner bottom plating or ordinary floors	ft.
Length for Freeboard = L	404.5 ft.	Breadth for Freeboard = B	55.0 ft.	Depth for Tonnage Coef. (Art. 39) = D	ft.

CORRECTION TO TONNAGE (Art. 39)

Tonnage between top of ceiling on double bottom or ordinary floors as fitted and standard level of top of ceiling (v) = _____ tons.

DEPTH OF DOUBLE BOTTOM (Art. 39)

Depth of Actual Double Bottom (including plating) or Ordinary Floors _____ ins.
Depth of Standard Double Bottom (including plating) or Ordinary Floors _____ ins.
Difference _____
x 1/12 = _____ = d.

SHEER (Arts. 39 and 60-63)

Ordinate	Height of Sheer in inches.	S.M.	Products
1		1	
2		4	
3		2	
4		4	
5		2	
6		4	
7		1	

FRAMING (Art. 39)

Between Frames	Length in ft.	Depth of Frame in ins.	Thickness of Sparring in inches	Total depth in inches	Products ft. x inches

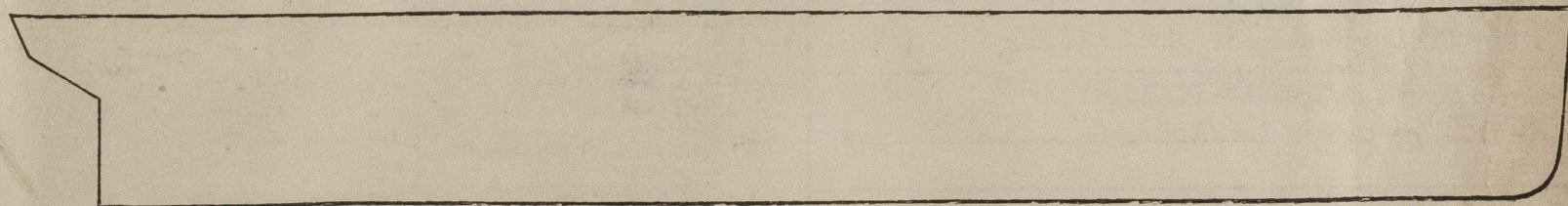
Sum of Products =
Mean Height of Sheer = S = $\frac{\text{Sum of Products}}{18}$ = _____ ins.
Standard Mean Height = S_o = $\frac{1}{3}(L/10 + 10)$ = _____ ins.
Difference _____ x 1/12 = _____ ft. = d₁
Correction (Arts. 60-63) = $\frac{3}{4}(1 - e)(S_o - S)$ = _____ ins.

Sum of Products =
Sum of Products = Actual Mean Depth of framing _____ ins.
Length of Ship _____
Standard „ „ „ „ _____ ins.
Difference _____ x 2/12 = _____ = 2b

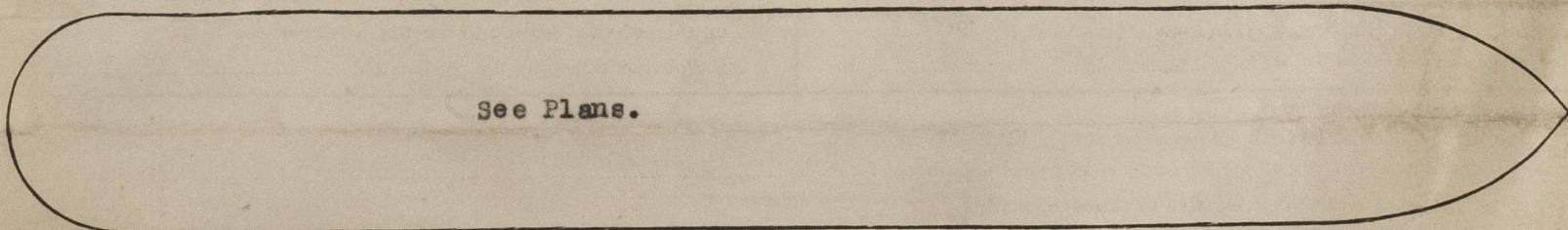
COEFFICIENT OF FINENESS (Art. 33 or 43)

$$\frac{100(V + v)}{L(B - 2b)(D + d + d_1) + n} \quad \text{or} \quad \frac{35 \times \Delta}{L \times B_o \times d_o} + 0.04$$

= _____ + _____ = $\frac{35 \times 9296}{404.5 \times 55.0 \times 21.68} + 0.04 = .71$



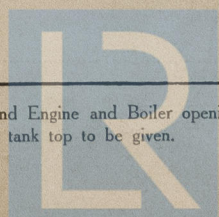
Sketch showing arrangement and height of double bottom or ordinary floors and of superstructures (unless complete plans are submitted).



See Plans.



Sketch of deck erections showing openings in end bulkheads and position and arrangement of closing appliances. Hatchways, and Engine and Boiler openings also to be shown. Extent and thickness of wood deck or composition to be shown in red ink, and extent and thickness of ceiling (and battens) on tank top to be given.



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WOOD DECK (Arts. 5 and 6)

	Mean Length in ft.	Thickness in ins.	Products
Forecastle			
Bridge			
Poop or R.Q.D.	31 -	.40	
Open Deck, ford.			
" " aft.			

Total length = l = Sum of Products =
 $\frac{\text{Sum of Products}}{l} = t =$ ins.; $\frac{\text{Sum of Products}}{L} = t_1 = 3.10$ ins.

CORRECTION FOR DEPTH & CORRECTION FOR FREEBOARD.

If no sheathing fitted amidships $= t_1 = \pm^* 3.10$ ins. (Arts. 6 and 57 p. 1)
 If sheathing is fitted amidships $= (t - t_1) = \mp^*$ ins. (Arts. 6 and 57 p. 2)
 * Note: Use the upper sign in correction for depth and the lower sign in correction for freeboard.

DEPTH TO USE IN FREEBOARD TABLE.

Depth moulded 25 ft. 6 ins.
 Thickness of Stringer Plate .40
 Thickness of Wood Deck Amidships 25 . 6.40
 Correction for partial wood deck ± 3.10
 Depth to use in Freeboard Tables 25 ft. 9.5 ins. = $D_1 = 25.79$

SUPERSTRUCTURES.

HEIGHT (Arts. 46—48)

Standard Height = $(0.018 L + 1.2)$ ft. = 7.5 ft.

	Complete Superstructure	Forecastle	Bridge	Poop or R.Q.D.
Actual	7'6" - 52" = 7'6"	7'6" =	— =	— =
Standard	7'6"	7'6"	—	—

CLOSING APPLIANCES (Arts. 50 and 54)

	Forecastle	Bridge	Poop or Raised Quarter Deck
		Forward End.	After End.
Means of Closing openings in bulkhead		--	
Corresponding Class			

EFFECTIVE LENGTH (Arts. 55 and 56)

	Mean Length	Coef. Art. 56	Height Coef.	Products.
Forecastle closed part				
" open part				
Bridge closed part				
" open part ford.				
" " aft.				
Poop closed part				
" open part				

Total Effective Length =
 $\frac{\text{Total Effective Length}}{\text{Length of Vessel}} = r = 1.00$

Corresponding Coef. in Table (Art. 49) = $e =$
 Reduction for Complete Superstructure -37.43 ins.
 Product .. ins.
 Correction for Superstructures -37.43 ins.

EFFECTIVE LENGTH (Shelter Deck Vessels Arts. 87—92)

$l + \frac{1}{2}(1 - p)(L - l) =$ ft.
 (* See Art. 90)

CORRECTION FOR PROPORTIONS L/D (Art. 58)

When D_1 is less than 35 ft. = $\frac{D_1 + 16}{300}(1 - e/2)(L - 12 D_1)$
 " " " greater than 35 ft. = $0.17(1 - e/2)(L - 12 D_1)$
 [Note $e = 1.0$ if more than $6/10$ covered] = $\frac{41.79 \times 1 \times 95.02}{300} = 13.2$ ins.

CORRECTION FOR ROUND OF BEAM (Art. 59) 4"

Standard Round of Beam = $\frac{\text{Length of Beam in ins.}}{50} = \frac{660}{50} = 13.2$ ins.
 Correction = $\frac{1}{4}(\text{Standard Round of Beam} - \text{Actual Round of Beam})$
 $= \frac{1}{4}(13.2 - 4) = 2.30$ ins.

CORRECTION FOR FREEING PORTS

(in vessels less than 15 ft. Depth Art. 64)

Length of bulwark in feet each side -- ft.
 Area of Freeing ports each side -- sq. ft.
 Area of Freeing ports required by Table -- sq. ft.
 Correction $1.2(r - 0.5) D_1 = +$ -- ins.

CORRECTION FOR ACCESS TO CREW'S QUARTERS (Arts. 65—67)

Are Crew berthed in Bridge House or Forecastle? --
 Height and breadth of gangway --
 Correction = $-.012(80 - l) D_1$ or $1.2(r - 0.5) D_1$
 -- = + -- ins.

SUMMARY.

Freeboard by Tables 62.68 ins.
 Correction for Sheer + --
 " " Partial Wood Deck 3.10
 " " Superstructures 37.43
 " " Proportions L/D 6.62
 " " Round of Beam 2.30
 " " Freeing Ports
 " " Access to Crew's Quarters
 Totals 8.92 40.53
 Net Correction 31.61
 Geometric Freeboard 31.07 ins.
 Corresponding Geometric Draught (mld.) 22.94 ft.
 Moulded Draught limited by $\left\{ \begin{array}{l} \text{form} \\ \text{position of side scuttles} \end{array} \right\}$ to 22.94 ft.
 Corresponding Freeboard (Summer) 31.1 ins.

Winter Freeboard (Art. 22) = $\frac{1}{4}(D_1 - 10) + r/45 \times (59 - D_1)$
 $= \frac{1}{4}(25.79 - 10) + 1/45 \times 33.21 = 4.69$ ins.

Tropical Freeboard (Art. 24) do. do. = - 4.69 ins.

Winter North Atlantic Fbd. (Art. 23) Vessels 330 ft. and below.
 Ratio of effective length of superstructures to length of vessel
 Additional Freeboard + -- ins.

Fresh Water Freeboard (Art. 27)
 $\frac{1}{4}$ " per foot of Summer Draught = - 5.74 ins.

FREEBOARD TO BE ASSIGNED.

Vertical distance from upper edge of horizontal line indicating the freeboard deck to the centre of the disc. (Summer Line) 31.1 ins.
 Fresh Water Load Line above centre of disc. 5.7 ins. *5.9 actually assigned by Tushketo*
 Tropical Load Line above " " 4.7 ins.
 Winter Load Line below " " 4.7 ins.
 Winter N.A. Load Line below " " -- ins.
 Vertical distance from the point of intersection of the extended line of the upper surface of 1st str. of the 2nd deck deck at mid length of the vessel with the outside of shell plating to the upper edge of the horizontal line indicating the freeboard deck 0.00 ins.

Are the Engine and Boiler openings covered by a Bridge, Poop, Raised Quarter Deck or enclosed by a strong steel deck house? Complete Superstructure and deck house above.

If openings are not so protected give thickness of plating and scantlings and spacing of stiffeners of Casings

Are suitable means provided for closing all openings in them in bad weather? Yes 26.5 feet.

State the vertical distance from base line at top of keel to lower edge of lowest side scuttle No

State if there are any cargo ports or scuppers through sides of vessel below upper deck No

State any special features in the construction of the vessel All W.T. Bulkheads (except Collision Bulkhead) extend to 2nd deck only.

Sister vessels

Fee, Yen.; Depth of Keel ins.; Draught (btm. keel) ft. ins.



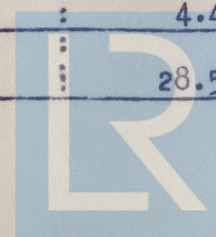
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S. S. "URAL MARU"

TRANSVERSE MODULUS.

: IN WAY OF :	: AFT HOLD :	: No.2 CARGO :
: TUNNEL RECESS :	: & :	: BOILER ROOM :
: TOP & W.T. FLAT. : F.No.31 -41 :	: ENGINE ROOM :	: HOLD :
: ABAFT F.No.31 :	: F.No.41-74 :	: F.No.74 -102 : F.No.102 -139 :
: FRAMES :	: 8"x3 $\frac{1}{2}$ "x.42"B.A. : 12"x3 $\frac{1}{2}$ "x.46"B.A. : 9"x3 $\frac{1}{2}$ "x.38"B.A. : 9"x3 $\frac{1}{2}$ "x.44"B.A. : 9"x3 $\frac{1}{2}$ "x.38"B.A. :	
: I/y of FRAMES. :	: 10.5 :	: 28.1 :
: FACTOR :	: 1.05 :	: 13.1 :
: STANDARD I/y OF FRAMES ^(M) :	: 1.05 :	: 14.0 :
: (H) :	: 11.03 :	: 13.1 :
: (K) :	: 28.1 :	
: (f) :	: 1.05 :	
: (f ₁) :	: 1.05 :	
: (f ₁ + f ₂) :	: 11.03 :	
: (S) :	: 8.50' :	
: (f ₁ + f ₂) x S :	: 21.08' :	
: 1,000 x M :	: 12.50' :	
: 1,000 x M :	: 20.50' :	
: S x (f ₁ + f ₂) :	: 39.78 :	
: t :	: 1.50 :	
: DRAUGHT PERMITTED BY :	: 3.15 :	
: TRANSVERSE STRENGTH :	: 3.15 :	
	: 20.31 :	
	: 20.31 :	
	: 30" :	
	: 30" :	
	: 30" :	
	: 30" :	
	: 609.30 :	
	: 609.30 :	
	: 13,760 :	
	: 14,700 :	
	: 13,760 :	
	: 22.86 :	
	: 23.83 :	
	: 22.58 :	
	: 24.12 :	
	: 22.58 :	
	: 4.42' :	
	: 4.42' :	
	: 4.42' :	
	: 27.00' :	
	: 28.25' :	
	: 27.00' :	
	: 28.54' :	
	: 27.00' :	



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W1327-00183

DETAILS OF CONSTRUCTION OF WEATHER DECK HATCHWAYS.

	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Length and Breadth						
Height above deck and thickness of side and end coaming	18' x 16	30' x 18"	27'6" x 18'	17'6" x 16'		
Shifting Beams { Number and Material Scantlings	27" x .44 3	27" x .44 5	24" x .44 5	24" x .44 3		
	13 x .34	16 x .36	15 x .36	13 x .34		
	3½x3x.42	4x3x.44	4x3x.44	3½x3x.42		
*Fore and Afters { Number and Material Scantlings		NONE.				
Thickness of hatches						
Remarks	All 2½"					
* When the fore and afters are of wood the depth should be stated from the underside of hatches.						

LONGITUDINAL MODULUS.

Height of Assumed Axis above base =

Section at

BELOW ASSUMED AXIS.						ABOVE ASSUMED AXIS.					
Item	Scantlings	Area	Lever	Moment	Mt. of Inertia	Item	Scantlings	Area	Lever	Moment	Mt. of Inertia
Flat Keel	25.25" x .74	18.7	13.2	247	3.260	Turning Str.	58" x .62"	36.0	20.0	720	14.400
Centre Girder	1 x 42" x .60"	12.6	11.5	145	1.670	" " Plating	72" x .38"	27.4	20.3	556	11.290
C.G. btm. ang.	1 x 4" x 4" x .58"	2.2	13.1	29	380	" " "	72" x .38"	27.4	20.5	562	11.520
C.G. top angles	1 x 3 1/2" x 3 1/2" x .62"	2.0	9.8	20	200	" " Str. Ang.	40" x .38"	15.2	20.6	313	6.450
T.T. Cr. Strake						2nd Deck Str.	6" x 6" x .62"	7.1	20.0	142	2.840
T.T. plating						" " Plating	41" x .40"	16.4	12.4	203	2.520
" "	282" x .56"	157.9	9.7	1,532	14,860	" " "	73" x .36"	26.3	12.5	329	4.110
" "						" " "	78" x .36"	28.1	12.5	351	4.390
" "						" " Str. Ang.	42" x .36"	15.1	12.6	190	2,390
Margin Plate	5" x .58"	2.9	9.7	28	270	2nd Deck Str.	48" x .40"	19.2	4.4	84	370
" " Angle	31" x .58"	18.0	10.9	196	2,140	" " Plating	21" x .30"	6.3	4.5	28	130
Shell Strake A	3 1/2" x 3 1/2" x .52"	3.4	12.0	41	490	" " "					
" " B	76.75" x .57"	43.7	13.0	569	7,380	" " Str. Ang.					
" " C	77.19" x .57"	44.0	12.9	568	7,330	Sheerstrake					
" " D	78" x .57"	44.5	12.7	565	7,180	Strake below	49.5" x .72"	35.6	18.7	666	12,450
" " E	75.81" x .57"	43.2	12.2	527	6,430	Shell Strake	76.56" x .66"	50.5	13.8	697	9,620
" " F	72.13" x .57"	41.1	8.9	366	3,260	" "	68.5" x .57"	39.0	8.2	320	2,620
" " G	76.25" x .57"	43.5	3.4	148	500	" "	68.94" x .57"	39.3	2.9	114	330
" "	8.0" x .57"	4.6	0.3	1	0						
Totals below assumed axis		482.3		4,981	55,350	Totals above assumed axis		388.9		5,275	85,430
" above assumed axis						Neutral Axis below assumed axis (x)		294.871.2 = 0.3412			
Sum or Difference		871.2		294	140,780	Correction = (Total Area x x^2 x 2)		281,560 - 200 = 281,360			
						Moment of Inertia about Neutral Axis		281,360 - 200 = 281,160			
						Distance from Neutral Axis to top of Keel		281,360 - 19.46 = 14,460			
						MODULUS OF SECTION =		14,460 = 14,460 = 22.94 ft.			
						Actual Modulus		11.46 x 55 = 630.3			

DRAUGHT PERMITTED BY LONGITUDINAL STRENGTH (Arts. 81-86) =

TRANSVERSE MODULUS.

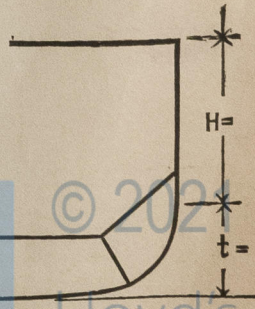
Minimum Side Plating (Art. 77) $\frac{0.105 \times 404.5}{100} + 17 = .57$; Standard Frame Spacing (Art. 78) = $.025 \times 404.5 + 17 = 30$
 Actual Side Plating = .57 ; Actual Frame Spacing = 30
 If actual frame spacing exceeds the standard $\sqrt{\frac{\text{Actual frame spacing}}{\text{Standard frame spacing}}} t \leq \frac{27.1125}{.5947} = .626$

Moulded Geometric Draught (d) = H = f₁ =
 t = See K = attached table.
 d - t = f₁ + f₂ =

Standard I/y = $\frac{s(d-t)(f_1+f_2)}{1000}$ =

Frame in ship = at spacing, I/y =

DRAUGHT PERMITTED BY TRANSVERSE STRENGTH = $\frac{I/y \times 1000}{s(f_1+f_2)} + t =$



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