

DISCLOSED SECTION

NO J.97

329

LLOYD'S REGISTER OF SHIPPING.

(CLASSIFICATION SOCIETY RECOGNISED BY THE JAPANESE GOVERNMENT)

SURVEY FOR FREEBOARD.

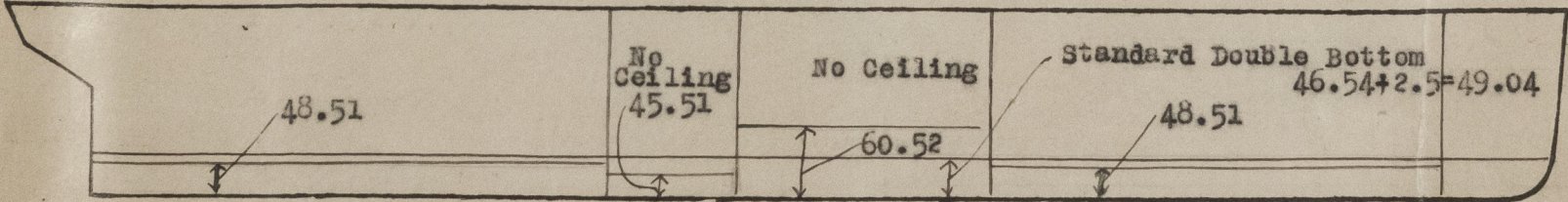
Ship's Name	Port of Registry	Official No.	No. in R.B.	Gross Tonnage	Tonnage under Fbd. Deck=V	Date of Launch	Date when Built	Report Number
" KOSEI MARU "	--	--	--	6630 Approx.	6039.92	15-1-33	--	90
Owners		Builders		Yard No.		Port of Survey		
Hiroumi Shoji Kabushiki Kaisha		Mitsubishi Zosen Kaisha Nagasaki.		522		Nagasaki.		
Type of vessel	Particulars of Classification		Position of Freeboard Deck		Date of Survey			
Full Scantling	* 100 A.1.		Upper Deck.		While building.			
					Name of Surveyor			
					H. J. Cox & H.D.Buchanan.			

PRINCIPAL DIMENSIONS.								
Length between perpendiculars.....	435	ft.	Breadth Moulded = B _o	58.5	ft.	Depth Moulded to Fbd. deck = D _o	32.83	ft.
Length on Load Line.....	435	ft.	Thickness of Side plating in ins. x 3/12 * .68 x 3/12 + .17			Round of Beam 14" + 1.17		
			*(2/12 if plating is jogged)			Depth from base of bottom plating or ordinary floors -	3.79	
Length for Freeboard = L.....	435	ft.	Breadth for Freeboard = B.....	58.67	ft.	Depth for Tonnage Coef. (Art. 39) = D	30.21	

CORRECTION TO TONNAGE (Art. 39)		DEPTH OF DOUBLE BOTTOM (Art. 39)	
Tonnage between top of ceiling on double bottom or ordinary floors as fitted and standard level of top of ceiling (v) = + 13.01		Depth of Actual Double Bottom (including plating) or Ordinary Floors 45.51 ins. Depth of Standard Double Bottom (including plating) or Ordinary Floors 46.54 ins. Difference -1.03 ins. x 1/12 = - .09 = d.	

SHEER (Arts. 39 and 60-63)				FRAMING (Art. 39)					
Ordinate	Height of Sheer in inches.	S.M.	Products	Between Frames	Length in ft.	Depth of Frame in ins.	Thickness of Sparring in inches	Total depth in inches	Products ft. x inches
1	129.00	1	129.00	AP & 16	35.88	9"	2	11.00	394.68
2	58.28	4	233.12	16 to 68	143.00	12	2	14.00	2002.00
3	15.50	2	31.00	68 to 85	46.75	12	0	12.00	561.00
4	0	4	0.00	85 to 129	121.00	12	2	14.00	1694.00
5	7.75	2	15.50	129 " 139	22.50	11	2	13.00	292.50
6	29.84	4	119.36	139 " F.P.	65.87	13	2	15.00	988.05
7	66.00	1	66.00						
Sum of Products =			593.98	Sum of Products =			5932.23		
Mean Height of Sheer = S = $\frac{\text{Sum of Products}}{18}$ = 33.00			ins.	Sum of Products = Actual Mean Depth of framing			13.64 ins.		
Standard Mean Height = S _o = $\frac{1}{3}(L/10 + 10)$ = 17.83			ins.	Length of Ship			Standard .. 7" + 2" = 9.00 ins.		
Difference 15.17 x 1/12 = 1.26			ft. = d ₁	Difference 4.64 x 2/12 = .77			= 2b		
Correction (Arts. 60-63) = $\frac{3}{4}(1 - e)(S_o - S)$ = 13.01			ins.						

COEFFICIENT OF FINENESS (Art. 39 or 43)		or	
$\frac{100(V + v)}{L(B - 2b)(D + d + d_1) + n}$		$\frac{35 \times \Delta}{L \times B_o \times d_o} + 0.04$	
$\frac{605293}{435(58.67 - 77)(30.21 - .09 + 1.26)} = .77$		$= \dots + 0.04 =$	



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

Fore Holds	6715	¢	x .0442' = -296.6) Nett Correction +13.007
After Holds	2530	¢	x .0442' = -111.7	
Engine Room	2304	¢	x .9567' = +2204.0	
Deep Tank	1682.5	¢	x .2942' = -495.0	



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.

WOOD DECK (Arts. 5 and 6)

	Mean Length in ft.	Thickness in ins.	Products
Forecastle	41.12		
Bridge	126.50	3.5 - .41	611.82
Poop or R.Q.D.	30.38	= 3.09	
Open Deck, ford.			
.. .. aft.			
Total length = l =	198.00	Sum of Products =	611.82
Sum of Products = t =	ins. :	Sum of Products = t_1 =	1.41 ins.

CORRECTION FOR DEPTH & CORRECTION FOR FREEBOARD.

If no sheathing fitted amidships = $t_1 = \pm$ 1.41 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 = 32 ft. 10 ins.
 Thickness of Stringer Plate = .41
 Thickness of Wood Deck Amidships = 32 - 10.41
 Correction for partial wood deck = + 1.41
 Depth to use in Freeboard Tables = 32 ft. 11.82 ins. = D_1 = 32.99 ft.

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		7.38 = .98	7.64 1	7.38 = .98
Standard		7.5	7.5	7.5

CLOSING APPLIANCES (Arts. 50 and 54)

	Forecastle	Bridge	Poop or Raised Quarter Deck
	Forward End.	After End.	
Means of Closing openings in bulkhead	Storm-boards in Riveted Channels	Intact Bulkhead	Storm-boards in Riveted Channels
Corresponding Class	II	II	II

EFFECTIVE LENGTH (Arts. 55 and 56)

	Mean Length	Coef. Art. 56	Height Coef.	Products
Forecastle closed part	41.12	1	.98	40.30
.. open part	--	--	--	--
Bridge closed part	123.75	1.0	1.0	123.75
.. open part ford.	--	--	--	--
.. .. aft.	2.75	.75	1.0	2.00
Poop closed part	30.38	1	.98	29.77
.. open part	--	--	--	--

Total Effective Length = 195.88

Total Effective Length = r = .45
 Length of Vessel = 288
 Corresponding Coef. in Table (Art. 49) = e = .288
 Reduction for Complete Superstructure = 39
 Product = 11.23
 Correction for Superstructures = 11.23 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 5/10 covered] = $\frac{48.99}{300} \times .856 \times 39.12 = 5.47$ ins.

CORRECTION FOR ROUND OF BEAM (Art. 59)

Standard Round of Beam = $\frac{\text{Length of Beam in ins.}}{50} = 14.04$ ins.
 Correction = $\frac{1}{2} (\text{Standard Round of Beam} - \text{Actual Round of Beam}) = \frac{1}{2} (14.04 - 14) = .01$ 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? Bridge.
 Height and breadth of gangway = --
 Correction = $.012 (80 - l) D_1$ or $1.2 (r - 0.5) D_1 = +$ -- ins.

SUMMARY.

Freeboard by Tables	98.35	ins.
Correction for Sheer	--	8.10
.. .. Partial Wood Deck	--	1.41
.. .. Superstructures	5.47	--
.. .. Proportions L/D	.01	--
.. .. Round of Beam	--	--
.. .. Freeing Ports	--	--
.. .. Access to Crew's Quarters	--	--
Totals	5.48	20.74
Net Correction	15.26	
Geometric Freeboard	83.09	ins.
Corresponding Geometric Draught (mld.)	25.94	ft.
Moulded Draught limited by $\left(\frac{\text{form}}{\text{longitudinal strength}} \right)$ to	25.94	ft.
Corresponding Freeboard (Summer)	83.1	ins.
Winter Freeboard (Art. 22) = $\frac{1}{2} (D_1 - 10) + r/45 \times (59 - D_1)$ = $\frac{1}{2} (22.99) + .45/45 (26.01) = +$ 6.01 ins.		
Tropical Freeboard (Art. 24) do. do. =	6.01	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 =	6.49	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) 83.1 ins.
 Fresh Water Load Line above centre of disc. 6.5 ins.
 Tropical Load Line above " " " 6.0 ins.
 Winter Load Line below " " " 6.0 ins.
 Winter N.A. Load Line below " " " -- ins.

Vertical distance from the point of intersection of the extended line of the upper surface of **str. plate** of the upper 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 0.0 ins.

Are the Engine and Boiler openings covered by a Bridge, Poop, Raised Quarter Deck or enclosed by a strong steel deck house? **Yes**

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**

State the vertical distance from base line at top of keel to lower edge of lowest side scuttle **Above freeboard deck.**

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 --

Sister vessels **M.V. "KORYU MARU".**

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

DETAILS OF CONSTRUCTION OF WEATHER DECK HATCHWAYS.

	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
			Bridge Deck.			
Length and Breadth	31'6" x 21	38'6" x 21	24'9" x 21	16'6" x 21	35'9" x 21	33' x 21
Height above deck and thickness of side and end coaming	30" x 1.50 30" x 1.44	30" x 1.60 30" x 1.44	30" x 1.44 30" x 1.44	30" x 1.50 30" x 1.44	30" x 1.60 30" x 1.44	30" x 1.50 30" x 1.44
Shifting Beams	Five 19 x .37 4 x 3 .48	Six 19½ x .38 4 x 3 x .48	Four 18½ x .36 4 x 3 x .48	Two 19½ x .38 4 x 3 x .48	Six 19 x .36 4 x 3 x .48	Five 19½ x .38 4 x 3 x .48
*Fore and Afters	Number and Material Scantlings					
Thickness of hatches	3" O.P. throughout					
Remarks						
* When the fore and afters are of wood the depth should be stated from the underside of hatches.						

LONGITUDINAL MODULUS.

BELOW ASSUMED AXIS.						ABOVE ASSUMED AXIS.					
Item	Scantlings	Area	Lever	Moment	Mt. of Inertia	Item	Scantlings	Area	Lever	Moment	Mt. of Inertia
Flat Keel						Top Deck Str.					
" "						" " "					
Centre Girder						" " Plating					
C.G. btm. ang.						" " "					
C.G. top angles						" " Str. Ang.					
T.T. Cr. Strake						2nd Deck Str.					
T.T. plating						" " Plating					
" "						" " "					
" "						" " Str. Ang.					
Margin Plate						3rd Deck Str.					
" " Angle						" " Plating					
Shell Strake A						" " "					
" " B						" " Str. Ang.					
" " C						Sheerstrake					
" " D						Strake below					
" " E						Shell Strake					
" " F						" "					
" " G						" "					
Totals below assumed axis						Totals above assumed axis					
" above assumed axis						Neutral Axis above assumed axis (x) =					
Sum or Difference						Correction = (Total Area x $x^2 \times 2$) =					
Moment of Inertia about assumed axis = 2						Moment of Inertia about Neutral Axis					
Draught permitted by longitudinal strength =						Distance from Neutral Axis to top of Strength deck beam at side =					
Actual Modulus =						MODULUS OF SECTION =					
f. B ₀											

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

TRANSVERSE MODULUS.

Minimum Side Plating (Art. 77) $\frac{0.105 \times +17}{100} =$; Standard Frame Spacing (Art. 78) = $.025 \times +17 =$

Actual Side Plating = ; Actual Frame Spacing =

If actual frame spacing exceeds the standard $\sqrt{\frac{\text{Actual frame spacing}}{\text{Standard frame spacing}}} t =$

Moulded Geometric Draught (d) = $f_1 =$

$d - t =$ $f_1 + f_2 =$

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

Frame in ship = at spacing, $I/y =$

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

