

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name Y. 923 Kawasaki Dockyard	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey <u>Kobe</u>
Moulded Dimensions: Length <u>549.05</u> Breadth <u>72.18</u> Depth <u>40.10</u>					Date of Survey <u>April 1953</u>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>29780</u> LT tons (excluding bossing)					Surveyor's Signature <u>Refined Loring</u>
Coefficient of fineness for use with Tables <u>772</u> ✓					Particulars of Classification <u>+100 A1</u> <u>Carrying Petroleum in Bulk</u> <u>contingent</u>

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth	40.09	(a) Where D is greater than Table depth (D-Table depth) R = $\frac{40.18-36.61}{3.57} \times 3 = +10.71$		Moulded Breadth (B)	72.18
Stringer plate	0.08	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	17.32
Sheathing on exposed deck	Nil			Ship's Round of Beam	17.32
$T \left(\frac{L-S}{L} \right) =$		If restricted by superstructures		Difference	Nil
Depth for Freeboard (D) =	40.18			Restricted to	
				Correction = $\frac{\text{Diff}^\circ}{4} \times \left(1 - \frac{S_1}{L} \right)$	Nil ✓

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	121.62	121.62	8.31	-	121.62
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	42.93	42.93	7.98	-	42.93
" overhang aft	4.79	3.60	7.98	-	3.60
" overhang forward					
Fore enclosed	39.29	39.29	7.53	-	39.29
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	208.63	207.44			207.44

Standard Height of Superstructure 7' 6" ✓

" " R.Q.D. -

Deduction for complete superstructure 42 ✓

Percentage covered $\frac{S}{L} =$ 38.00% ✓

" " $\frac{S_1}{L} =$ 37.78% ✓

" " $\frac{E}{L} =$ 37.78% ✓

Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) 28.78% ✓

Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) 28.78% ✓

Interpolation for bridge less than .2L (if required)

Deduction = $0.2878 \times 42 = -12.09$ ✓

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	64.91	1	64.91	47.88	47.88	1	47.88
1/2 L from A.P.	28.88	4	115.52	9.24	9.24	4	36.96
1/2 L "	7.14	2	14.28	0	0	2	0
Amidships	0	4	0	0	0	4	0
1/2 L from F.P.	14.28	2	28.56	0	0	2	0
1/2 L "	57.76	4	231.04	18.36	18.36	4	73.44
F.P.	129.82	1	129.82	94.44	94.44	1	94.44
Total	302.79		584.13				252.72

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 " =

Correction = $\frac{\text{Difference between sums of products}}{18}$

$\left(\frac{.75 - S}{2L} \right) = \frac{331.41}{18} \left(\frac{.75 - .19}{1.56} \right) = +10.31$ ✓

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 40.18 Ft.
Summer freeboard = 9.50
Moulded draught (d) = 30.68
Keel allowance =

Extreme draught =

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 7.675 $7\frac{3}{4}$ "

Addition for Winter North Atlantic Freeboard (if required) = 7.67 + 5.49 = 13.16 $13\frac{1}{4}$ "

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 26790$ LT
Tons per inch immersion at summer load water line
T = 80 LT

Deduction = $\frac{\Delta}{40 T}$ inches
= 8.37 $8\frac{1}{4}$ "

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient 772 + 68 = 1452 $\frac{1452}{1.36}$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

+	-
10.71	-
-	12.09
10.31	-
-	-
-	-
-	-
21.02	12.09

Summer Freeboard = 113.99 ✓

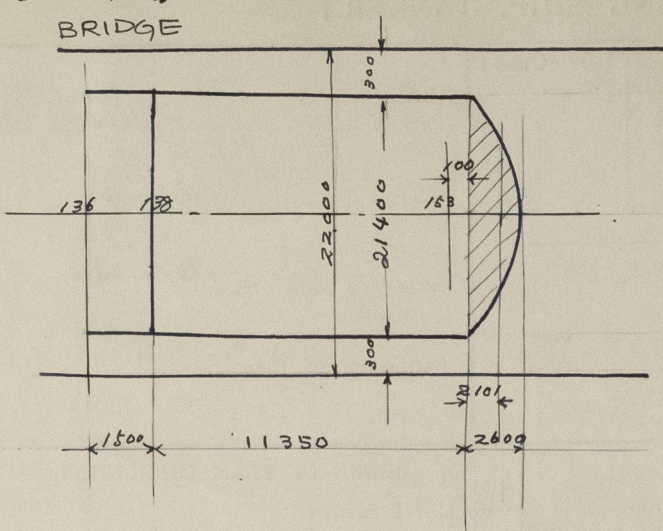
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc	16"
Fresh Water Line	8.4"
Tropical Line	7.34"
Winter Line below	7.34"
Winter North Atlantic Line	13.4"

Tropical Fresh Water Freeboard	8.2"	2896
Fresh Water	8.94"	2489
Tropical	8.104"	2686
Winter	10.134"	2699
Winter North Atlantic	10.714"	3022

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.

(LENGTH)



Bridge Front Area

2.600	1	2.600
2.591	4	10.364
2.567	2	5.134
2.520	4	10.080
2.448	2	4.896
2.345	4	9.380
2.210	2	4.420
2.047	4	8.188
1.835	1	2.753
1.701	2	3.402
1.545	1	1.545
1.348	2	2.696
1.065	3	0.799
.860	1	0.860
.580	1	0.145

$$\text{Poop} = 37.070 = 121.62 \checkmark$$

$$\text{F\&cle} = 11.975 = 39.29 \checkmark$$

$$67.262 \times 2 = 134.524$$

$$.200 \times 580 = 0.116$$

$$\text{Area} = 134.524 + 0.116 = 134.640$$

$$\text{Equivalent length} = \frac{134.640}{21.400} = 6.291$$

$$\text{Enclosed length} = \frac{(11.350 + 6.291) \times 21.400}{22.000} = 13.084 = 42.93 \checkmark$$

$$\text{Overhang} = \frac{1.500 \times 21.400}{22.000} = 1.459 = 4.79 \checkmark$$

(Deck Height)

- 1) Poop

Distance between beam tops	2.550
Thickness of Poop deck plate	0.009
" " Upper deck plate	
(stringer)-	0.025
Deck height	2.534 = 8.31 ✓
- 2) Bridge

Distance between beam tops	2.450
Thickness of bridge deck plate	0.008
" " Upper deck plate	
(stringer)-	0.025
Deck height	2.433 = 7.98 ✓
- 3) F'cle.

Distance between beam tops	2.310
Thickness of f'cle deck plate	0.009
" " Upper deck plate	
(stringer)-	0.025
Deck height	2.294 = 7.53 ✓

Trade of ship

International

Names of sister ships

Builder's name and yard number

Kawasaki Ship No 923

Owners

Fee £



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Lloyd's Register
Foundation