

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
 having Complete superstructure with Tonnage Opening Port of Survey Bh. Barina  
 (Type of Superstructures.) Date of Survey While building  
 Ship's Name KOMAKI MARU Nationality and Port of Registry  Official Number  Gross Tonnage 1933 Name of Surveyor M. H. Parkin  
 Moulded Dimensions: Length 450 Breadth 61 Depth 40.06 to Sluice Deck Particulars of Classification 4100 A1  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 14470 <sup>31.06 to 2nd Deck</sup> tons  
 Coefficient of fineness for use with Tables .699 with freeboard.

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	31.06	(a) Where D is greater than Table depth (D-Table depth) R = (31.10 - 30.00) 3.00		Moulded Breadth (B)	61.00
Stringer plate	-.45	= + 3.30" ✓		Standard Round of Beam = $\frac{B \times 12}{50}$	14.64"
Sheathing on exposed deck	-.04	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓		Ship's Round of Beam	15"
$T \left( \frac{L-S}{L} \right) =$		If restricted by superstructures ✓		Difference	Excess .36 ✓
Depth for Freeboard (D) =	31.10 ✓			Restricted to	
				Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$= \frac{.36}{4} \times .0062 = .0111$

### DEDUCTION FOR SUPERSTRUCTURES.

Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	24.5	9' beam		24.50
" overhang ...		beam		
R.Q.D. enclosed ...				
" overhang ...				
Bridge enclosed ...	421.0	9' beam		421.00
" overhang aft ...		beam		
" overhang forward ...				
F'cle enclosed ...				
" overhang ...				
Trunk aft ...				
" forward ...				
Tonnage opening aft ...	4.50			2.25
" " forward				
Total ...	450.00			447.75

Standard Height of Superstructure 7.50  
 " " R.Q.D. ✓  
 Deduction for complete superstructure 42.00"  
 Percentage covered  $\frac{S}{L} = 100\%$   
 " "  $\frac{S_1}{L} = 99.50\%$   
 " "  $\frac{E}{L} = 99.50\%$   
 Percentage from Table, Line A. (corrected for absence of forecastle (if required)) 99.38%  
 Percentage from Table, Line B. (corrected for absence of forecastle (if required))  
 Interpolation for bridge less than .2L (if required)  
 Deduction =  $42.00 \times .9938 = -41.74"$

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	55.00	1		55.00	60.00	78.00	1		78.00
$\frac{1}{4}$ L from A.P. ...	24.475	4		97.90	26.63	34.71	4		138.84
$\frac{2}{4}$ L " ...	6.05	2		12.10	6.69	8.58	2		17.16
Amidships ...	✓	4		✓	✓	✓	4		✓
$\frac{3}{4}$ L from F.P. ...	12.10	2		24.20	11.13	13.20	2		26.40
$\frac{1}{4}$ L " ...	48.95	4		195.80	45.25	53.40	4		213.60
F.P. ...	110.00	1		110.00	102.00	120.00	1		120.00
Total ...				495.00	+18"				594.00

Mean actual sheer aft = Excess  
 Mean standard sheer aft = Excess  
 Mean actual sheer forward = Excess  
 Mean standard sheer forward = Excess  
 Length of enclosed superstructure forward of amidships = }  
 " " aft of " = } C.S.S.

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{99}{18} (.75 - .50) = -1.37"$

If limited on account of midship superstructure.

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

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.699 + .68}{1.36} = \frac{1.379}{1.360}$
Depth to Freeboard Deck = 31.10 ✓	$\Delta = 14.000$	Depth Correction ... 3.30
Summer freeboard = 4.04 ✓	Tons per inch immersion at summer load water line	Deduction for superstructures ... 41.74
Moulded draught (d) = 27.06 ✓	T = 51.70	Sheer correction ... 1.37
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.76 = 172 ✓	Deduction = $\frac{\Delta}{40T}$ inches = 6.77	Round of Beam correction ...
Addition for Winter North Atlantic Freeboard (if required) = ✓	= 172 ✓	Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ...
		3.30 43.15 39.81
		Summer Freeboard = 48.57

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

Tropical Fresh Water Line above Centre of Disc ...	347 ✓	Tropical Fresh Water Freeboard ...	888 ✓
Fresh Water Line " " ...	172 ✓	Fresh Water " " ...	1060 ✓
Tropical Line " " ...	172 ✓	Tropical " " ...	1060 ✓
Winter Line below " " ...	172 ✓	Winter " " ...	1404 ✓
Winter North Atlantic Line " " ...	✓	Winter North Atlantic " " ...	✓

**PARTICULARS OF PROTECTION TO OPENINGS, ETC.**

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	...	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...	...
COAMINGS	}	Height above Deck	...	...	...	...	...	...	...	...
		Thickness	Sides	...	...	...	...	...	...	...
			Ends	...	...	...	...	...	...	...
		Stiffeners	...	...	...	...	...	...	...	...
Brackets, Stays	...	...	...	...	...	...	...	...		
HATCH BEAMS	}	Number	...	...	...	...	...	...	...	...
		Spacing	...	...	...	...	...	...	...	...
		Scantling and Sketch	...	...	...	...	...	...	...	...
			...	...	...	...	...	...	...	...
Bearing Surface	...	...	...	...	...	...	...	...		
FORE AND AFTERS	}	Number	...	...	...	...	...	...	...	...
		Spacing	...	...	...	...	...	...	...	...
		Unsupported Lengths	...	...	...	...	...	...	...	...
			Scantling* and Sketch	...	...	...	...	...	...	...
Bearing Surface	...	...	...	...	...	...	...	...		
HATCH COVERS	}	Material	...	...	...	...	...	...	...	...
		Thickness	...	...	...	...	...	...	...	...
		How fitted	...	...	...	...	...	...	...	...
		Bearing Surface	...	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...	
Number of Tarpaulins	...	...	...	...	...	...	...	...	...	

\*Are wood fore and afters steel shod at all bearing surfaces ?  
 Are battens and wedges efficient and in good condition ?  
 Are tarpaulins in good condition and in accordance with rule requirements ?  
 Are lashings provided in accordance with rule requirements ?

Particulars of fiddle, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

Particulars of Gangway Cargo and Coaling Ports :—



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Particulars of Scuppers and Sanitary Discharge Pipes —

Particulars of Side Scuttles :

Particulars of Guard Rails :—

Particulars of Gangways, Lifelines, etc. :—

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well ... ..						
Forward Well ... ..						

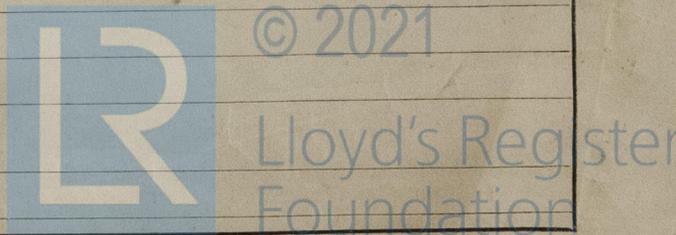
State position of each freeing port ... .. } After Well :—  
 (F. and A. position and height above deck edge) } Forward Well :—  
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :—  
 Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

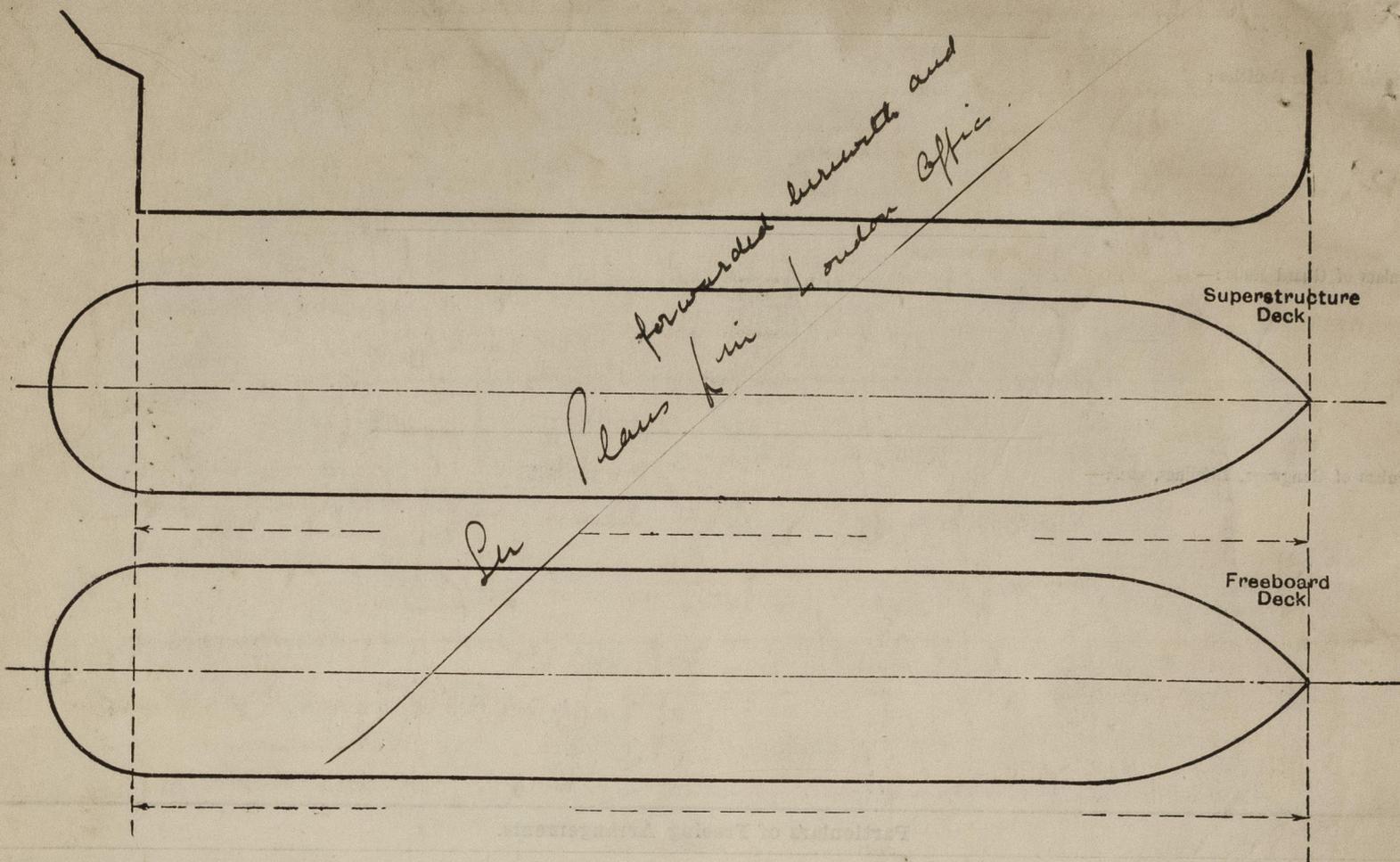
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Forecastle Bulkhead ... ..								
Raised Quarter Deck Bulkhead ... ..								
Ridge, After Bulkhead ... ..								
Ridge, Forward Bulkhead ... ..								
Forecastle Bulkhead ... ..								
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ... ..								
Exposed Machinery Casings on Super-structure Decks ... ..								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..								
Deckhouses on Flush Deck Ships ... ..								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Forecastle Bulkhead ... ..	Full height shifting board in riveted channels.
Raised Quarter Deck Bulkhead ... ..	
Ridge, After Bulkhead ... ..	Full height shifting boards in riveted channels.
Ridge, Forward Bulkhead ... ..	
Forecastle Bulkhead ... ..	
Exposed Machinery Casings on Free-board or Raised Quarter Decks ... ..	
Exposed Machinery Casings on Super-structure Decks ... ..	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	
Deckhouses on Flush Deck Ships ... ..	



Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



State any special features in the construction of the ship:—

Builder's name and yard number

Names of sister ships

Owners

Fee £

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