

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 Index. No. _____
 (For London Office only.)

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~

having Prop. Bridge and Forecastle.

Port of Survey Osaka.

Date of Survey 28th January 1937.

Name of Surveyor A. E. Munro.

Particulars of Classification + 100 A.1.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"TA AN."	CHINESE. TSINGTAO		5492.	

Moulded Dimensions: Length 399.41 Breadth 52.16 Depth 31.19.

Moulded displacement at moulded draught = 85 per cent. of moulded depth 12,314 tons

Coefficient of fineness for use with Tables .78 estimated

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>31.19</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>+ 13.74"</u>	Moulded Breadth (B) = <u>52.16"</u>
Stringer plate <u>.04</u>		Standard Round of Beam = $\frac{B \times 12}{50}$ = <u>12.52"</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>✓</u>	Ship's Round of Beam = <u>13.00"</u>
		Difference <u>1.48</u> = <u>.48"</u>
Depth for Freeboard (D) = <u>31.23</u>	If restricted by superstructures <u>✓</u>	Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right)$ = <u>- .06"</u>

DEDUCTION FOR SUPERSTRUCTURES.

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

Standard Height of Superstructure 7.50

" " R.Q.D. ✓

Deduction for complete superstructure 41.98"

Percentage covered $\frac{S}{L} = 52.86$

" " $\frac{S_1}{L} = 52.06$

" " $\frac{E}{L} = 52.06$

Percentage from Table, Line A. Timber = 70.54
(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 = 41.98 × 70.54 = 29.61"

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.		1					1		
$\frac{1}{8}$ L from A.P.		4					4		
$\frac{2}{8}$ L "		2					2		
Amidships		4					4		
$\frac{3}{8}$ L from F.P.		2					2		
$\frac{1}{8}$ L "		4					4		
F.P.		1					1		
Total									

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 = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ - 2.82"

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.

Addition for Winter and Winter North Atlantic Freeboard.

Ft.

Depth to Freeboard Deck = 31.23

Summer freeboard = 4.83

Moulded draught (d) = 26.40

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.6 = 6\frac{1}{2}"

Addition for Winter North Atlantic Freeboard (if required) = $\frac{d}{3} = 8.8 = 8\frac{3}{4}"$

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 = $\frac{\Delta}{40T}$ inches = 6\frac{3}{4}"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.78 + .68}{1.36} = \frac{1.46}{1.36}$

Depth Correction 13.74

Deduction for superstructures 29.61

Sheer correction 2.82

Round of Beam correction06

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

	+	-
13.74		
29.61		
2.82		
.06		
13.74	32.49	- 18.75

Summer Freeboard = 57.91"

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

Timber	Tropical Fresh Water Line above Centre of Disc ...	<u>26\frac{3}{4}"</u>	Tropical Fresh Water Freeboard ...
"	Fresh Water Line " " ...	<u>20\frac{1}{4}"</u>	" Fresh Water " " ...
"	Tropical Line " " ...	<u>20"</u>	" Tropical " " ...
"	Winter Line <u>above</u> <u>below</u> " " ...	<u>4\frac{3}{4}"</u>	" Winter " " ...
"	Winter North Atlantic Line <u>below</u> " " ...	<u>6\frac{1}{4}"</u>	" Winter North Atlantic " " ...
"	Summer Line <u>above</u> " " ...	<u>13\frac{1}{2}"</u>	