

# Timber

## Lloyd's Register of Shipping.

### SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index. No. **27085**  
(For London Office only).

Ship's Name <b>SHING HO</b>	Official Number	Nationality and Port of Registry <b>Chinese Tsingtao</b>	Gross Tonnage <b>4342</b>	Date of Build <b>1918-10</b>	Port of Survey
Moulded Dimensions: Length <b>379.66</b> Breadth <b>49.25</b> Depth <b>30.12</b>					Date of Survey <b>12-7-37</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>12420</b> <b>10557</b> tons (estimated)					Surveyor's Signature
Coefficient of fineness for use with Tables <b>.772</b>					Particulars of Classification <b>+100 A1.</b>

<b>Depth for Freeboard (D).</b> Moulded depth ... <b>30.12</b> Stringer plate ... <b>.04</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <b>/</b> Depth for Freeboard (D) = <b>30.16</b>	<b>Depth correction.</b> (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(30.16 - 25.31) 2.920 = +1.416$ <b>4.85</b> (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ <b>/</b> If restricted by superstructures <b>/</b>	<b>Round of Beam correction.</b> Moulded Breadth (B) <b>49.25</b> Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>11.82</b> Ship's Round of Beam = <b>12.00</b> Difference <b>.18</b> Restricted to Correction = $\frac{\text{Diff}^*}{4} \times \left( 1 - \frac{S_1}{L} \right) =$ $\frac{.18}{4} \times .5414 =$ <b>.02</b>
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## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	29.50	29.50	8.0	-	29.50
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...	101.39	101.39	8.0	-	101.39
„ overhang aft ...	3.61	2.71			2.71
„ overhang forward ...					
Fore enclosed ...	40.50	40.50	8.0	-	40.50
„ overhang ...					
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward ...					
Total ...	175.00	174.10			174.10

Standard Height of Superstructure **7.30**

„ „ R.Q.D. **/**

Deduction for complete superstructure **40.65**

Percentage covered  $\frac{S}{L} =$  **46.10**

„ „  $\frac{S_1}{L} =$  **45.86**

„ „  $\frac{E}{L} =$  **45.86**

Percentage from Table, Line A. **Timber 66.66**  
(corrected for absence of fore-castle (if required)) **/**

Percentage from Table, Line B.  
(corrected for absence of fore-castle (if required)) **/**

Interpolation for bridge less than 2L (if required) **/**

Deduction = **40.65 x .6666 = 27.10**

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	47.97	1	47.97	44.5	44.5	1	44.5
$\frac{1}{4}L$ from A.P. ...	21.345	4	85.38	22.25	22.25	4	89.0
$\frac{3}{4}L$ „ ...	5.275	2	10.55	5.5	5.5	2	11.0
Amidships ...	-	4	-	-	-	4	-
$\frac{3}{4}L$ from F.P. ...	10.55	2	21.10	10.1	10.1	2	20.2
$\frac{1}{4}L$ „ ...	42.69	4	170.76	37.5	37.5	4	150.0
F.P. ...	95.93	1	95.93	89.0	89.0	1	89.0
Total ...			431.69				403.7

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$   $\frac{27.99}{18} (.75 - .2305) =$  **+ .81**

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.

Depth to Freeboard Deck = **30.16**  
 Summer freeboard = **4.79**  
 Moulded draught (d) = **25.37**

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = **6.34 = 6 1/4**  
 Addition for Winter North Atlantic Freeboard (if required) =  $\frac{d}{3} =$  **8.46 = 8 1/2**

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

$\frac{d}{4} = 6 1/4$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.772 + .68}{1.36} = \frac{1.452}{1.36} =$  **1.0676**

Depth Correction ... **14.16**  
 Deduction for superstructures ... **27.10**  
 Sheer correction ... **.81**  
 Round of Beam correction ... **.02**  
 Correction for Thickness of Deck amidships ... **-**  
 Other corrections, scantlings, etc. ... **-**

**65.30**  
**69.72**

**14.97 + 27.12 = 42.09**  
 Summer Freeboard = **57.57**

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 **2.634**  
 Fresh Water Line „ „ **2.0 1/2**  
 Tropical Line „ „ **2.0 1/2**  
 Winter Line „ „ **5 3/4**  
 Winter North Atlantic Line „ „ **5**

Timber Tropical Fresh Water Freeboard ... **3-9 1/2**  
 Fresh Water „ „ **4-3 1/4**  
 Tropical „ „ **4-3 1/4**  
 Winter „ „ **5-6 3/4**  
 Winter North Atlantic „ „ **6-4 3/4**

Summer above **14 1/4**