

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Open Forecastle*

(Type of Superstructures.)

Port of Survey \_\_\_\_\_

Date of Survey *11/11/38*

Name of Surveyor \_\_\_\_\_

Particulars of Classification \_\_\_\_\_

Ship's Name <i>OROYA</i>	Nationality and Port of Registry <i>British</i>	Official Number	Gross Tonnage	Date of Build
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Moulded Dimensions: Length *525'* Breadth *62.5'* Depth *43.75'*

Moulded displacement at moulded draught = 85 per cent. of moulded depth

Coefficient of fineness for use with Tables *.78 assumed*

<p><b>Depth for Freeboard (D)</b></p> <p>Moulded depth ... <i>43.75'</i></p> <p>Stringer plate ... <i>.04'</i></p> <p>Sheathing on exposed deck</p> <p><math>T \left( \frac{L-S}{L} \right) =</math></p> <p>Depth for Freeboard (D) = <i>43.79'</i></p>	<p><b>Depth correction</b></p> <p>(a) Where D is greater than Table depth (D - Table depth) R = <math>(43.79 - 35.00) \times 3.00 = 26.37'</math></p> <p>(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <math>8.79'</math></p> <p>If restricted by superstructures <input checked="" type="checkbox"/></p>	<p><b>Round of Beam correction</b></p> <p>Moulded Breadth (B) <i>62.5'</i></p> <p>Standard Round of Beam = <math>\frac{B \times 12}{50} = 15''</math></p> <p>Ship's Round of Beam = <math>12''</math></p> <p>Difference <i>deficient</i> <math>3''</math></p> <p>Restricted to</p> <p>Correction = <math>\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{3}{4} (.9275) = .70</math></p>
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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 ...					
.. overhang ...					
R.Q.D. enclosed ...					
.. overhang ...					
Bridge enclosed... ..					
.. overhang aft ...					
.. overhang forward					
Fore enclosed <i>open</i> ...	<i>54.5</i>	<i>38.07</i>	<i>8.5</i>	<input checked="" type="checkbox"/>	<i>38.07</i>
.. overhang ...					
Trunk aft ...					
.. forward ...					
Tonnage opening aft ...					
.. forward					
Total ...	<i>54.5</i>	<i>38.07</i>			<i>38.07</i>

Standard Height of Superstructure *7.50'*

.. .. R.Q.D. *42''*

Deduction for complete superstructure *42''*

Percentage covered  $\frac{S}{L} = 10.33\%$

.. ..  $\frac{S_1}{L} = 7.25\%$

.. ..  $\frac{E}{L} = 7.25\%$

Percentage from Table, Line A. *3.62*

(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 =  $42 \times 0.362 = -1.52$

**SHEER CORRECTION.**

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>62.50</i>	<i>1</i>	<i>1</i>	<i>62.50</i>	<i>36''</i>	<i>36.00</i>	<i>1</i>	<i>1</i>	<i>36.00</i>
$\frac{1}{2}$ L from A.P. ...	<i>27.81</i>	<i>4</i>	<i>1</i>	<i>111.24</i>	<i>9.6''</i>	<i>9.60</i>	<i>4</i>	<i>1</i>	<i>38.40</i>
$\frac{3}{8}$ L ..	<i>6.875</i>	<i>2</i>	<i>1</i>	<i>13.75</i>	<i>-2''</i>	<i>-2.00</i>	<i>2</i>	<i>1</i>	<i>-4.00</i>
Amidships ...	<i>0</i>	<i>4</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>4</i>	<i>1</i>	<i>0</i>
$\frac{3}{8}$ L from F.P. ...	<i>15.75</i>	<i>2</i>	<i>1</i>	<i>27.50</i>	<i>11.4''</i>	<i>11.40</i>	<i>2</i>	<i>1</i>	<i>22.80</i>
$\frac{1}{2}$ L ..	<i>55.62</i>	<i>4</i>	<i>1</i>	<i>222.52</i>	<i>38.0''</i>	<i>38.00</i>	<i>4</i>	<i>1</i>	<i>152.00</i>
F.P. ...	<i>125.0</i>	<i>1</i>	<i>1</i>	<i>125.00</i>	<i>87.0''</i>	<i>87.00</i>	<i>1</i>	<i>1</i>	<i>87.00</i>
Total ...				<i>562.51</i>					<i>332.20</i>

Mean actual sheer aft = *Defn*

Mean standard sheer aft

Mean actual sheer forward = *Defn*

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *Defn*

.. .. aft of .. = *Defn*

Sheer "forward" Standard

Actual *87* Standard *87*

Actual *38.0* Standard *38.0*

Actual *11.4* Standard *11.4*

Actual *9.6* Standard *9.6*

Actual *3.62* Standard *3.62*

Actual *235.2* Standard *235.2*

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{230.31 - 235.2}{18} = -8.93''$

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

<p><b>Deduction for Tropical Freeboard.</b></p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <i>43.79'</i></p> <p>Summer freeboard = <i>12.67'</i></p> <p>Moulded draught (d) = <i>31.12'</i></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = <math>\frac{d}{4}</math> inches =</p> <p>Addition for Winter North Atlantic Freeboard (if required) =</p>	<p><b>Deduction for Fresh Water.</b></p> <p>Displacement in salt water at summer load water line</p> <p><math>\Delta =</math></p> <p>Tons per inch immersion at summer load water line</p> <p>T =</p> <p>Deduction = <math>\frac{\Delta}{40T}</math> inches =</p>	<p><b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required)</p> <p>Correction for coefficient <i>1.36</i></p> <p>Depth Correction ... <i>26.37</i></p> <p>Deduction for superstructures ... <i>1.52</i></p> <p>Sheer correction ... <i>8.93</i></p> <p>Round of Beam correction ... <i>70</i></p> <p>Correction for Thickness of Deck amidships</p> <p>Other corrections, scantlings, etc. ...</p> <p>Summer Freeboard = <i>152.00</i></p>
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**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-**

Tropical Fresh Water Line above Centre of Disc ...	Tropical Fresh Water Freeboard ...
Fresh Water Line ..	Fresh Water ..
Tropical Line ..	Tropical ..
Winter Line below ..	Winter ..
Winter North Atlantic Line ..	Winter North Atlantic ..

