

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

 Index. No. 24585  
 (For London Office only.)

*as a cargo steamer*

Computation of Freeboard for Steamer, <del>Sailing Ship, Tanker</del>					Port of Survey <u>Hong Kong</u>	
having _____					Date of Survey <u>26, 29 &amp; 30 June 1934</u>	
(Type of Superstructures.)					Name of Surveyor <u>T.S. Morrison</u>	
Ship's Name <u>Willy</u>	Nationality and Port of Registry <u>Norwegian</u> <u>Ostlo</u>	Official Number <u>-</u>	Gross Tonnage <u>5832</u>	Date of Build <u>1916</u>	Particulars of Classification <u>+100M</u> <u>carrying petroleum in bulk</u>	
Moulded Dimensions: Length <u>411.6</u> Breadth <u>53.08</u> Depth <u>31.0</u>						
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>12880</u> tons						
Coefficient of fineness for use with Tables <u>.783</u>						

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <u>31.00</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(31.05 - 27.44) × 3 = +10.83</u>	Moulded Breadth (B) <u>53.08</u>
Stringer plate ... .. <u>.05</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 12.74$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>13.00</u>
Depth for Freeboard (D) = <u>31.05</u>		Difference = <u>.26</u>
		Restricted to
		Correction = $\frac{\text{Diff.}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.26}{4} \times .568 = -.04$

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..	<u>110.25</u>	<u>110.25</u>	<u>7.5</u>	<u>✓</u>	<u>110.25</u>
" overhang ... ..					
R.Q.D. enclosed ... ..					
" overhang ... ..					
Bridge enclosed ... ..	<u>26.08</u>	<u>26.08</u>	<u>7.5</u>	<u>✓</u>	<u>26.08</u>
" overhang aft ... ..					
" overhang forward ... ..	<u>3.00</u>	<u>1.50</u>			<u>1.50</u>
Fore enclosed ... ..	<u>37.08</u>	<u>37.08</u>	<u>7.5</u>	<u>✓</u>	<u>37.08</u>
" overhang ... ..	<u>3.00</u>	<u>2.88</u>			<u>2.88</u>
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ... ..					
" forward ... ..					
Total ... ..	<u>179.41</u>	<u>177.79</u>			<u>177.79</u>

Standard Height of Superstructure <u>7.5</u>
" " R.Q.D. <u>✓</u>
Deduction for complete superstructure <u>42</u>
Percentage covered $\frac{S}{L} = 43.59$
" $\frac{S_1}{L} = 43.20$
" $\frac{E}{L} = 43.20$
Percentage from Table, Line A. <u>26.22</u>
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. <u>30.22</u>
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required) $(26.22 + [4 \times \frac{.067}{.200}]) = 27.56$
Deduction = $42 \times .2756 = -11.58$

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<u>51.16</u>	1		<u>51.16</u>	<u>45.00</u>	<u>45.00</u>	1		<u>45.00</u>
$\frac{1}{8}L$ from A.P. ... ..	<u>22.765</u>	4		<u>91.06</u>	<u>18.96</u>	<u>18.96</u>	4		<u>75.84</u>
$\frac{2}{8}L$ " ... ..	<u>5.625</u>	2		<u>11.25</u>	<u>4.74</u>	<u>4.74</u>	2		<u>9.48</u>
Amidships ... ..		4					4		
$\frac{2}{8}L$ from F.P. ... ..	<u>11.25</u>	2		<u>22.50</u>	<u>10.66</u>	<u>10.66</u>	2		<u>21.32</u>
$\frac{1}{8}L$ " ... ..	<u>45.53</u>	4		<u>182.12</u>	<u>42.64</u>	<u>42.64</u>	4		<u>170.56</u>
F.P. ... ..	<u>102.32</u>	1		<u>102.32</u>	<u>102.00</u>	<u>102.00</u>	1		<u>102.00</u>
Total ... ..				<u>460.41</u>					<u>424.20</u>

Mean actual sheer aft = <u>Deficient</u>
Mean standard sheer aft
Mean actual sheer forward = <u>Deficient</u>
Mean standard sheer forward
Length of enclosed superstructure forward of amidships = <u>  </u>
" " aft of " = <u>  </u>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{36.21}{18} (.75 - .2179) = +1.07$

If limited on account of midship superstructure.

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

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <u>31.05</u> Summer freeboard = <u>6.71</u> Moulded draught (d) = <u>24.34</u> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.08 = 6"</u> Addition for Winter North Atlantic Freeboard (if required) = <u>✓</u>	<b>Deduction for Fresh Water.</b> 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 <u><math>\frac{d}{4} = 6"</math></u>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction ... ..</td> <td><u>10.83</u></td> <td><u>-</u></td> </tr> <tr> <td>Deduction for superstructures ... ..</td> <td><u>-</u></td> <td><u>11.58</u></td> </tr> <tr> <td>Sheer correction ... ..</td> <td><u>1.07</u></td> <td><u>-</u></td> </tr> <tr> <td>Round of Beam correction ... ..</td> <td><u>-</u></td> <td><u>.04</u></td> </tr> <tr> <td>Correction for Thickness of Deck amidships ... ..</td> <td><u>-</u></td> <td><u>-</u></td> </tr> <tr> <td>Other corrections, scantlings, etc. ... ..</td> <td><u>-</u></td> <td><u>-</u></td> </tr> <tr> <td></td> <td><u>11.90</u></td> <td><u>11.62</u></td> </tr> </tbody> </table> Summer Freeboard = <u>80.52</u>		+	-	Depth Correction ... ..	<u>10.83</u>	<u>-</u>	Deduction for superstructures ... ..	<u>-</u>	<u>11.58</u>	Sheer correction ... ..	<u>1.07</u>	<u>-</u>	Round of Beam correction ... ..	<u>-</u>	<u>.04</u>	Correction for Thickness of Deck amidships ... ..	<u>-</u>	<u>-</u>	Other corrections, scantlings, etc. ... ..	<u>-</u>	<u>-</u>		<u>11.90</u>	<u>11.62</u>
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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 ... ..	<u>12" = 304</u>	Tropical Fresh Water Freeboard ... ..	<u>6'-8½" = 2045</u>
Fresh Water Line " " ... ..	<u>6" = 152</u>	Fresh Water " " ... ..	<u>5'-8½" = 1741</u>
Tropical Line " " ... ..	<u>6" = 152</u>	Tropical " " ... ..	<u>6'-2½" = 1893</u>
Winter Line below " " ... ..	<u>6" = 152</u>	Winter " " ... ..	<u>6'-2½" = 1893</u>
Winter North Atlantic Line " " ... ..	<u>6" = 152</u>	Winter North Atlantic " " ... ..	<u>7'-2½" = 2197</u>