

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker				Port of Survey
having <i>Poop, Bridge & Forecastle.</i>				Date of Survey
(Type of Superstructures.)				Name of Surveyor
Ship's Name	Nationality and Port of Official Registry	Gross Tonnage	Date of Build	Particulars of Classification
<i>CRISTOBAL COLON</i>				
Moulded Dimensions: Length <i>479.33</i> Breadth <i>61.00</i> Depth <i>35.75</i>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth				
Coefficient of fineness for use with Tables <i>.703</i>				

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <i>35.75</i>	(a) Where D is greater than Table depth (D-Table depth) R = $(35.82 - 35.75) \times 3.00$ = <i>+ 11.61</i>	Moulded Breadth (B) <i>61.00</i>
Stringer plate ... <i>.04</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{61 \times 12}{50} = 14.64$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .25 \times .1209 = .03$	If restricted by superstructures	Ship's Round of Beam = <i>12.00</i>
Depth for Freeboard (D) = <i>35.82</i>		Difference <i>2.64</i> - deficient
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{2.64}{4} \times .186 = + .12$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>55.76</i>	<i>55.76</i>	<i>8-0</i>		<i>55.76</i>
" overhang ...	<i>20.49</i>	<i>10.24</i>	<i>8-0</i>		<i>10.24</i>
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<i>240.88</i>	<i>240.88</i>	<i>8-0</i>		<i>240.88</i>
" overhang aft ...	<i>7.97</i>	<i>5.98</i>	<i>8-0</i>		<i>5.98</i>
" overhang forward ...	<i>1.82</i>	<i>.91</i>	<i>8-0</i>		<i>.91</i>
F'cle enclosed ...	<i>58.20</i>	<i>58.20</i>	<i>8-0</i>		<i>58.20</i>
" overhang ...	<i>4.55</i>	<i>2.27</i>	<i>8-0</i>		<i>2.27</i>
Trunk aft ...					
Bridge forward ...	<i>31.76</i>	<i>15.87</i>	<i>8-0</i>		<i>15.87</i>
Tonnage opening aft ...					
" " forward ...					
Total ...	<i>421.42</i>	<i>390.11</i>			<i>390.11</i>

Standard Height of Superstructure	<i>7.50</i>
" " R.Q.D.	<i>✓</i>
Deduction for complete superstructure	<i>42.00</i>
Percentage covered $\frac{S}{L} = \frac{421.42}{513.42} = 82.1\%$	
" " $\frac{S_1}{L} = \frac{390.11}{513.42} = 76.0\%$	
" " $\frac{E}{L} = \frac{390.11}{513.42} = 76.0\%$	
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	<i>77.04</i>
Interpolation for bridge less than 2L (if required)	
Deduction = $42.00 \times .7704 = 32.36$	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>57.93</i>	<i>1</i>	<i>✓</i>	<i>57.93</i>	<i>36.00</i>	<i>36.00</i>	<i>1</i>	<i>✓</i>	<i>36.00</i>
$\frac{1}{4}$ L from A.P. ...	<i>25.78</i>	<i>4</i>	<i>✓</i>	<i>103.12</i>	<i>10.00</i>	<i>10.00</i>	<i>4</i>	<i>✓</i>	<i>40.00</i>
$\frac{2}{4}$ L " ...	<i>6.37</i>	<i>2</i>	<i>✓</i>	<i>12.74</i>	<i>-1.50</i>	<i>-1.50</i>	<i>2</i>	<i>✓</i>	<i>-1.00</i>
Amidships ...	<i>✓</i>	<i>4</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>4</i>	<i>✓</i>	<i>✓</i>
$\frac{3}{4}$ L from F.P. ...	<i>12.74</i>	<i>2</i>	<i>✓</i>	<i>25.48</i>	<i>13.00</i>	<i>13.00</i>	<i>2</i>	<i>✓</i>	<i>26.00</i>
$\frac{1}{4}$ L " ...	<i>51.56</i>	<i>4</i>	<i>✓</i>	<i>206.24</i>	<i>51.75</i>	<i>51.75</i>	<i>4</i>	<i>✓</i>	<i>207.00</i>
F.P. ...	<i>115.86</i>	<i>1</i>	<i>✓</i>	<i>115.86</i>	<i>102.00</i>	<i>102.00</i>	<i>1</i>	<i>✓</i>	<i>102.00</i>
Total ...	<i>521.37</i>			<i>521.37</i>					<i>410.00</i>

Mean actual sheer aft = *Deficient*
Mean standard sheer aft =

Mean actual sheer forward = *Deficient*
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =
" " aft of " = *Does not apply*

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{111.37}{18} \left(.75 - \frac{4395}{51342} \right) = + 1.92$

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 = *36.04*
Summer freeboard = *6.80*
Moulded draught (d) = *29.24*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches =

Addition for Winter North Atlantic Freeboard (if required) =

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.703 + .68}{1.36} = \frac{1.383}{1.36}$

	+	-
Depth Correction ...	<i>11.61</i>	<i>-</i>
Deduction for superstructures ...	<i>-</i>	<i>32.36</i>
Sheer correction ...	<i>1.92</i>	<i>-</i>
Round of Beam correction ...	<i>.12</i>	<i>-</i>
Correction for Thickness of Deck amidships ...	<i>2.64</i>	<i>-</i>
Other corrections, scantlings, etc. ...	<i>-</i>	<i>-</i>
	<i>16.29</i>	<i>32.36</i>

Summer Freeboard = *81.65*

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line

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 " " ...	

81.65