

# AMENDED COMPUTATION

Rpt. C.11 (Comp.).

ACONCAGUA 35548  
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Index. No. 35638  
(For London Office only).

## Lloyd's Register of Shipping. SURVEYS FOR FREEBOARD. (COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>"IMPERIAL"</b>	Official Number	Nationality and Port of Registry <i>Chilian Valparaiso</i>	Gross Tonnage	Date of Build <i>1938</i>	Port of Survey
Moulded Dimensions: Length <i>410.00</i> Breadth <i>58.00</i> Depth <i>33.75</i>					Date of Survey <i>19.7.38</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>13742</i> tons					Surveyor's Signature
Coefficient of fineness for use with Tables <i>.705</i>					Particulars of Classification <i>+100A1 with freeboard.</i>

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... .. <i>33.75</i>	(a) Where D is greater than Table depth (D-Table depth) R = <i>(33.94-27.33) 3 = +19.83"</i>	Moulded Breadth (B) <i>58.00</i>
Stringer plate ... .. <i>.04</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <i>6.61</i>	Standard Round of Beam = $\frac{B \times 12}{50} = 13.92$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) = \frac{2.5}{12} \times .7027$		Ship's Round of Beam = <i>6.00</i>
		Difference <i>deficient</i> <i>7.92</i>
Depth for Freeboard (D) = <i>33.94</i>	If restricted by superstructures	Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{7.92}{4} \times \left( 1 - \frac{17.96}{82.00} \right) = +1.48"$

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..	<i>42.83</i>	<i>42.83</i>	<i>7.5</i>		<i>42.83</i>
" overhang ... ..					
R.Q.D. enclosed ... ..					
" overhang ... ..					
Bridge enclosed <i>OPEN</i> ...	<i>35.92</i>	<i>17.96</i>	<i>8.0</i>		<i>17.96</i>
" overhang aft ... ..					
" overhang forward ... ..					
F'cle enclosed ... ..	<i>42.83</i>	<i>42.83</i>	<i>8.0</i>		<i>42.83</i>
" overhang ... ..	<i>.33</i>	<i>.17</i>			<i>.17</i>
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ... ..					
" " forward ... ..					
Total ... ..	<i>121.91</i>	<i>103.79</i>			<i>103.79</i>

Standard Height of Superstructure *7.5'*

" " R.Q.D. *✓*

Deduction for complete superstructure *42.00"*

Percentage covered  $\frac{S}{L} = 29.73$

" "  $\frac{S_1}{L} = 25.31$

" "  $\frac{E}{L} = 25.31$

Percentage from Table, Line A. *12.65*  
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. *16.04*  
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required) *12.65 + (3.39 x  $\frac{17.96}{82.00}$ ) = 13.39%*

Deduction = *42 x .1339 = -5.62"*

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<i>51.00</i>	1		<i>51.00</i>	<i>51.00</i>	<i>51.00</i>	1		<i>51.00</i>
$\frac{1}{4}$ L from A.P. ... ..	<i>22.695</i>	4		<i>90.78</i>	<i>22.75</i>	<i>22.75</i>	4		<i>91.00</i>
$\frac{3}{4}$ L " ... ..	<i>5.61</i>	2		<i>11.22</i>	<i>5.75</i>	<i>5.75</i>	2		<i>11.50</i>
Amidships ... ..	-	4		-	-	-	4		
$\frac{3}{4}$ L from F.P. ... ..	<i>11.22</i>	2		<i>22.44</i>	<i>11.50</i>	<i>11.50</i>	2		<i>23.00</i>
$\frac{1}{4}$ L " ... ..	<i>45.39</i>	4		<i>181.56</i>	<i>45.625</i>	<i>45.625</i>	4		<i>182.50</i>
F.P. ... ..	<i>102.00</i>	1		<i>102.00</i>	<i>102.00</i>	<i>102.00</i>	1		<i>102.00</i>
Total ... ..				<i>459.00</i>					<i>461.00</i>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{7.5-S}{2L} \right) = \frac{2.00}{18} \left( \frac{7.5-11.486}{2} \right) = -.05"$   
If limited on account of midship superstructure. *Yes. No allowance* *.6014*

Mean actual sheer aft = *Excess*  
Mean standard sheer aft

Mean actual sheer forward = *Excess*  
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *Nil*  
" " aft of " = *Nil*

If limited to maximum allowance of 1½ ins. per 100 ft.

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <i>34.00</i> Summer freeboard = <i>10.50</i> Moulded draught (d) = <i>23.50</i> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>5.875" = 149mm</i> Addition for Winter North Atlantic Freeboard (if required) =	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta = 11000$ Tons per inch immersion at summer load water line $T = 44.50$ Deduction = $\frac{\Delta}{40T}$ inches = <i>6.18"</i> <i>= 157mm</i>	<b>TABULAR FREEBOARD</b> corrected for Fresh Deck (if required) Correction for coefficient $\frac{.705 + .68}{1.36} = \frac{1.385}{1.36}$ <table border="1"> <tr> <th></th><th>+</th><th>-</th></tr> <tr> <td>Depth Correction ... ..</td><td><i>19.83</i></td><td>-</td></tr> <tr> <td>Deduction for superstructures ... ..</td><td>-</td><td><i>5.62</i></td></tr> <tr> <td>Sheer correction ... ..</td><td>-</td><td>-</td></tr> <tr> <td>Round of Beam correction ... ..</td><td><i>1.48</i></td><td>-</td></tr> <tr> <td>Correction for Thickness of Deck amidships ... ..</td><td><i>.72</i></td><td>-</td></tr> <tr> <td>Other corrections, scantlings, etc. AND TO CORRESPOND TO A SUMMER MOULDED DRAUGHT OF 23'-6"</td><td><i>33.62</i></td><td>-</td></tr> <tr> <td></td><td><i>55.65</i></td><td><i>5.62</i></td></tr> <tr> <td>Summer Freeboard =</td><td colspan="2"><i>126.00</i></td></tr> </table>		+	-	Depth Correction ... ..	<i>19.83</i>	-	Deduction for superstructures ... ..	-	<i>5.62</i>	Sheer correction ... ..	-	-	Round of Beam correction ... ..	<i>1.48</i>	-	Correction for Thickness of Deck amidships ... ..	<i>.72</i>	-	Other corrections, scantlings, etc. AND TO CORRESPOND TO A SUMMER MOULDED DRAUGHT OF 23'-6"	<i>33.62</i>	-		<i>55.65</i>	<i>5.62</i>	Summer Freeboard =	<i>126.00</i>		<i>74.60</i> <i>75.97</i>  <i>87.8</i> <i>20.7.38</i>
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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 ...	<i>306mm</i>
Fresh Water Line " " ...	<i>157mm</i>
Tropical Line " " ...	<i>149mm</i>
Winter Line below " " ...	<i>149mm</i>
Winter North Atlantic Line " " ...	

Tropical Fresh Water Freeboard ...	<i>2894</i>
Fresh Water " " ...	<i>3043</i>
Tropical " " ...	<i>3051</i>
Winter " " ...	<i>3349</i>
Winter North Atlantic " " ...	