

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

*COSMO TRADER* (COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>CARLTON</b>	Official Number <b>165841</b>	Nationality and Port of Registry <b>BRITISH NEWCASTLE HONGKONG</b>	Gross Tonnage <b>5016</b>	Date of Build <b>1942</b>	Port of Survey
Moulded Dimensions: Length <b>412.50'</b> Breadth <b>57.66'</b> Depth <b>28.75'</b> <i>To centre of Rudder Stock</i>					Date of Survey <b>10.9.48</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>12415.</b> tons					Surveyor's Signature <i>[Signature]</i>
Coefficient of fineness for use with Tables <b>.748</b>					Particulars of Classification <b>+100A1 with freeboard</b>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. <b>28.75</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>(28.78 - 27.50) 3 = + 3.84"</b>	Moulded Breadth (B) <b>57.66</b>
Stringer plate ... .. <b>.03</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>✓</b>	Standard Round of Beam = $\frac{B \times 12}{50} = \mathbf{13.84}$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures <b>✓</b>	Ship's Round of Beam = <b>13.87</b>
Depth for Freeboard (D) = <b>28.78</b>		Difference <b>.03</b>
		Restricted to
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \mathbf{\frac{.03}{4} \times .0076 = \text{NIL.}}$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..	<b>23.25</b>	<b>23.25</b>			<b>23.25</b>
„ overhang ... ..	<b>2.50</b>	<b>1.25</b>			<b>1.25</b>
R.Q.D. enclosed ... ..					
„ overhang ... ..					
Bridge enclosed ... ..	<b>381.75</b>	<b>381.75</b>	<b>9'-1"</b>	<b>✓</b>	<b>381.75</b>
„ overhang aft ... ..					
„ overhang forward ... ..					
F'cle enclosed ... ..					
„ overhang ... ..					
Trunk aft ... ..					
„ forward ... ..		<b>1/2 DIFF =</b>			
Tonnage opening aft ... ..	<b>5.00</b>	<b>3.12</b>			<b>3.12</b>
„ „ forward ... ..					
Total ... ..	<b>412.50</b>	<b>409.37</b>			<b>409.37</b>

Standard Height of Superstructure <b>7.50</b>
„ „ R.Q.D. <b>✓</b>
Deduction for complete superstructure <b>42.00"</b>
Percentage covered $\frac{S}{L} = \mathbf{100}$
„ „ $\frac{S_1}{L} = \mathbf{99.24}$
„ „ $\frac{E}{L} = \mathbf{99.06}$
Percentage from Table, Line A. <b>99.06</b> (corrected for absence of forecastle (if required))
Percentage from Table, Line B. <b>✓</b> (corrected for absence of forecastle (if required))
Interpolation for bridge less than .2L (if required) <b>✓</b>
Deduction = <b>42.00 x .9906 = 41.61"</b>

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<b>51.25</b>	<b>1</b>	<b>51.25</b>	<b>78.00</b>	<b>97.00</b>	<b>1</b>	<b>97.00</b>		
$\frac{1}{2}L$ from A.P. ... ..	<b>22.81</b>	<b>4</b>	<b>91.24</b>	<b>34.625</b>	<b>43.165</b>	<b>4</b>	<b>172.66</b>		
$\frac{3}{4}L$ „ ... ..	<b>5.635</b>	<b>2</b>	<b>11.27</b>	<b>8.25</b>	<b>10.67</b>	<b>2</b>	<b>21.34</b>		
Amidships ... ..	<b>—</b>	<b>4</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>4</b>			
$\frac{1}{4}L$ from F.P. ... ..	<b>11.275</b>	<b>2</b>	<b>22.55</b>	<b>11.25</b>	<b>13.64</b>	<b>2</b>	<b>27.28</b>		
$\frac{3}{4}L$ „ ... ..	<b>45.61</b>	<b>4</b>	<b>182.44</b>	<b>46.375</b>	<b>55.18</b>	<b>4</b>	<b>220.72</b>		
F.P. ... ..	<b>102.50</b>	<b>1</b>	<b>102.50</b>	<b>105.00</b>	<b>124.00</b>	<b>1</b>	<b>124.00</b>		
Total ... ..			<b>461.25</b>	<b>+19</b>			<b>663.00</b>		

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \mathbf{\frac{201.75}{18} \times .25 = -2.80"}$  ✓  
If limited on account of midship superstructure. **✓**

Actual sheer at Lt = **9'-1"**  
Standard „ „ „ = **7'-6"**  
 $\frac{1'-7"}{1'-7"} = \mathbf{A}$   
Mean actual sheer aft = **Excess.**  
Mean standard sheer aft = **Excess.**  
Mean actual sheer forward = **Excess.**  
Mean standard sheer forward = **Excess.**  
Length of enclosed superstructure forward of amidships = **C.S.S.**  
„ „ aft of „ = **C.S.S.**

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **28.78**  
Summer freeboard = **3.21**  
Moulded draught (d) = **25.57**  
Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = **6.39" = 6 1/2"**  
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 =  $\frac{\Delta}{40 T}$  inches = **7"**

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<b>3.84</b>	<b>—</b>
Deduction for superstructures	<b>—</b>	<b>41.61</b>
Sheer correction	<b>—</b>	<b>2.80</b>
Round of Beam correction	<b>—</b>	<b>—</b>
Correction for Thickness of Deck amidships	<b>—</b>	<b>—</b>
Other corrections, scantlings, etc.	<b>—</b>	<b>—</b>
	<b>3.84</b>	<b>44.41</b>

Summer Freeboard = **38.60** ✓SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck :—

Tropical Fresh Water Line above Centre of Disc	<b>13 1/2"</b>
Fresh Water Line „ „	<b>7"</b>
Tropical Line „ „	<b>6 1/2"</b>
Winter Line below „ „	<b>6 1/2"</b>
Winter North Atlantic Line „ „	<b>✓</b>

Tropical Fresh Water Freeboard	<b>2'-2 1/2"</b>
Fresh Water „ „	<b>2'-7 1/2"</b>
Tropical „ „	<b>2'-8"</b>
Winter „ „	<b>3'-9"</b>
Winter North Atlantic „ „	<b>✓</b>

© **2012**  
Lloyd's Register  
Foundation