

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>MASHONA COAST</b> <b>EX MASHONA</b>	Official Number <b>169144</b>	Nationality and Port of Registry <b>BRITISH</b> <b>CAPE TOWN</b>	Gross Tonnage <b>401</b>	Date of Build	Port of Survey
Moulded Dimensions: Length <b>141.00'</b> Breadth <b>27.00'</b> Depth <b>11.00'</b>				Date of Survey <b>18.7.49.</b>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>723</b> tons				Surveyor's Signature	
Coefficient of fineness for use with Tables <b>.711</b>				Particulars of Classification	

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. <b>11.00</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>(11.03-9.40) 1.63 = +1.77'</b>	Moulded Breadth (B) <b>27.00</b>
Stringer plate ... .. <b>.03</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>1.63</b>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{27 \times 12}{50} = \mathbf{6.48}$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <b>N.L.</b>
Depth for Freeboard (D) = <b>11.03</b>		Difference <b>6.48</b>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{6.48}{4} \times .232 = \mathbf{.38}$

DEDUCTION FOR SUPERSTRUCTURES.					
	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed <b>Equip.</b> ...	<b>41.26</b>	<b>41.26</b>	<b>7.00</b>	<b>✓</b>	<b>41.26</b>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
Fore enclosed <b>Equip.</b> ...	<b>14.01</b>	<b>14.01</b>	<b>8.0</b>	<b>✓</b>	<b>14.01</b>
" overhang ...	<b>1.62</b>	<b>.81</b>	<b>8.0</b>	<b>✓</b>	<b>.81</b>
Trunk aft <b>35.08 x 18.27</b>		<b>23.39</b>	<b>7.00</b>	<b>✓</b>	<b>23.39</b>
" forward <b>27.84 x 18.27</b>		<b>18.56</b>	<b>3.33-.50</b>	<b>2.83/6.00</b>	<b>8.75</b>
Tonnage opening aft <b>18.83 x 14.71</b>		<b>10.26</b>	<b>3.33-.50</b>	<b>2.83/6.00</b>	<b>4.84</b>
" forward ...					
Total ...	<b>56.89</b>	<b>108.29</b>	<b>NO HATCH DEFICIENT IN HEIGHT.</b>		<b>93.06</b>

Standard Height of Superstructure <b>6.00</b>
" " R.Q.D. <b>✓</b>
Deduction for complete superstructure <b>20.10</b>
Percentage covered $\frac{S}{L} = \frac{40.35}{100} = \mathbf{40.35\%}$
" " $\frac{S_1}{L} = \frac{76.80}{100} = \mathbf{76.80\%}$
" " $\frac{E}{L} = \frac{66.00}{100} = \mathbf{66.00\%}$
Percentage from Table, Line A. <b>56.20</b>
(corrected for absence of forecastle (if required)) <b>✓</b>
Percentage from Table, Line B. <b>✓</b>
(corrected for absence of forecastle (if required)) <b>✓</b>
Interpolation for bridge less than .2L (if required) <b>✓</b>
Deduction = <b>20.10 x .5620 = -11.30</b>

SHEER CORRECTION.							
Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	<b>24.10</b>	<b>1</b>		<b>0</b>		<b>1</b>	
$\frac{1}{2}L$ from A.P. ...		<b>4</b>		<b>0</b>		<b>4</b>	
$\frac{2}{3}L$ " ...		<b>2</b>		<b>0</b>		<b>2</b>	
Amidships ...		<b>4</b>		<b>✓</b>		<b>4</b>	
$\frac{2}{3}L$ from F.P. ...		<b>2</b>		<b>0</b>		<b>2</b>	
$\frac{1}{2}L$ " ...		<b>4</b>		<b>0</b>		<b>4</b>	
F.P. ...		<b>1</b>		<b>0</b>		<b>1</b>	
Total ...		<b>✓</b>	<b>216.90</b>				<b>0</b>

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

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

Length of enclosed superstructure forward of amidships = } **Deficient**  
L aft of " = } **Shears.**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{216.90 - (75 - .2018)}{18} = \mathbf{+6.61'}$   
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 = <b>11.03</b> Summer freeboard = <b>1.50</b> Moulded draught (d) = <b>9.53</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>2.38 = 2 1/2"</b> Addition for Winter North Atlantic Freeboard (if required) =	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta = \mathbf{742}$ Tons per inch immersion at summer load water line $T = \mathbf{7.95}$ Deduction = $\frac{\Delta}{40T}$ inches = <b>2.33"</b> = <b>2 1/2"</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) <b>14.33</b> Correction for coefficient $\frac{68 + 711}{1.36} = \mathbf{1.391}$ <b>14.66</b> <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td><b>1.77</b></td> <td><b>✓</b></td> </tr> <tr> <td>Deduction for superstructures</td> <td><b>✓</b></td> <td><b>11.30</b></td> </tr> <tr> <td>Sheer correction</td> <td><b>6.61</b></td> <td><b>✓</b></td> </tr> <tr> <td>Round of Beam correction</td> <td><b>.38</b></td> <td><b>✓</b></td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td><b>✓</b></td> <td><b>✓</b></td> </tr> <tr> <td>Other corrections, scantlings, etc. to summer moulded draught of <b>9.638"</b></td> <td><b>5.88</b></td> <td><b>✓</b></td> </tr> <tr> <td></td> <td><b>14.64</b></td> <td><b>11.30</b></td> </tr> <tr> <td>Summer Freeboard =</td> <td><b>18.00</b></td> <td></td> </tr> </table>		+	-	Depth Correction	<b>1.77</b>	<b>✓</b>	Deduction for superstructures	<b>✓</b>	<b>11.30</b>	Sheer correction	<b>6.61</b>	<b>✓</b>	Round of Beam correction	<b>.38</b>	<b>✓</b>	Correction for Thickness of Deck amidships	<b>✓</b>	<b>✓</b>	Other corrections, scantlings, etc. to summer moulded draught of <b>9.638"</b>	<b>5.88</b>	<b>✓</b>		<b>14.64</b>	<b>11.30</b>	Summer Freeboard =	<b>18.00</b>	
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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	<b>5"</b>	Tropical Fresh Water Freeboard	<b>1.6"</b>
Fresh Water Line " "	<b>2 1/2"</b>	Fresh Water " "	<b>3 1/2"</b>
Tropical Line " "	<b>2 1/2"</b>	Tropical " "	<b>3 1/2"</b>
Winter Line below " "	<b>2 1/2"</b>	Winter " "	<b>8 1/2"</b>
Winter North Atlantic Line " "	<b>✓</b>	Winter North Atlantic " "	<b>✓</b>