

Parker - as C.S.S. with T.O.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <i>Empire Voice</i>	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build <i>1940</i>	Port of Survey
Moulded Dimensions: Length <i>420.5</i> Breadth <i>57.29</i> Depth <i>24.5</i>					Date of Survey <i>10/1/46</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons					Surveyor's Signature
Coefficient of fineness for use with Tables <i>.725</i>					Particulars of Classification

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth <i>24.50</i>	(a) Where D is greater than Table depth (D-Table depth) R =	Moulded Breadth (B) <i>57.29</i>
Stringer plate <i>.34</i> <i>.03</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 13.75$
Sheathing on exposed deck	<i>(28.03 - 24.50) 3 = -10.5</i>	Ship's Round of Beam = <i>14.00</i>
$T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Difference = <i>.25</i>
Depth for Freeboard (D) = <i>24.53</i>		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.25}{4} \times .0062$ <i>Rel</i>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	<i>416.5</i>	<i>416.5</i>	<i>10.0</i>	<i>✓</i>	<i>416.5</i>
" overhang aft					
" overhang forward					
F'cle enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft	<i>4.0</i>	<i>2.0</i>	<i>1/2 5/8</i>		<i>2.0</i>
" forward					
Total	<i>420.5</i>	<i>418.5</i>			<i>418.5</i>

Standard Height of Superstructure *7.5*
R.Q.D. _____
Deduction for complete superstructure *42.0*
Percentage covered $\frac{S}{L} = 100$
" " $\frac{S_1}{L} = 99.5$
" " $\frac{E}{L} = 99.38$
Percentage from Table, Line A. *99.38*
(corrected for absence of forecastle (if required))
Percentage from Table, Line B.
(corrected for absence of forecastle (if required))
Interpolation for bridge less than .2L (if required) *✓*
Deduction = *42.0 x .9938 = 41.74*

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>52.05</i>	1		<i>52.05</i>	<i>57.25</i>	<i>27.25</i>	1		<i>27.25</i>
$\frac{1}{8}L$ from A.P.	<i>23.16</i>	4		<i>92.64</i>	<i>24.12</i>	<i>38.83</i>	4		<i>155.32</i>
$\frac{2}{8}L$ "	<i>5.72</i>	2		<i>11.44</i>	<i>6.00</i>	<i>9.60</i>	2		<i>19.20</i>
Amidships		4					4		
$\frac{3}{8}L$ from F.P.	<i>11.45</i>	2		<i>22.90</i>	<i>12.00</i>	<i>15.18</i>	2		<i>30.36</i>
$\frac{4}{8}L$ "	<i>46.32</i>	4		<i>185.28</i>	<i>47.88</i>	<i>61.41</i>	4		<i>245.64</i>
F.P.	<i>104.10</i>	1		<i>104.10</i>	<i>108.00</i>	<i>138.00</i>	1		<i>138.00</i>
Total				<i>468.41</i>	<i>+</i>	<i>+</i>			<i>675.77</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{207.36}{18} \times .25 = 2.88$
If limited on account of midship superstructure. *Actual ft superstructure = 10.0 - Standard " = 7.6 - Excess = 2.6*

Mean actual sheer aft = _____
Mean standard sheer aft = _____ } *Excess*
Mean actual sheer forward = _____
Mean standard sheer forward = _____

Length of enclosed superstructure forward of amidships = _____ } *CSS*
" " aft of " = _____

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <i>24.53</i> Ft.</p> <p>Summer freeboard = <i>2.12</i></p> <p>Moulded draught (d) = <i>22.41</i></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = _____</p> <p>Addition for Winter North Atlantic Freeboard (if required) = _____</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta =$ _____</p> <p>Tons per inch immersion at summer load water line</p> <p>T = _____</p> <p>Deduction = $\frac{\Delta}{40 T}$ inches = _____</p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient $\frac{7254.68}{136} \frac{1.405}{7.26}$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>+</td><td>-</td></tr> <tr><td>Depth Correction</td><td><i>10.50</i></td></tr> <tr><td>Deduction for superstructures</td><td><i>41.74</i></td></tr> <tr><td>Sheer correction</td><td><i>2.88</i></td></tr> <tr><td>Round of Beam correction</td><td></td></tr> <tr><td>Correction for Thickness of Deck amidships</td><td></td></tr> <tr><td>Other corrections, scantlings, etc.</td><td></td></tr> <tr><td></td><td><i>55.12</i></td></tr> </table> <p>Summer Freeboard = <i>25.42</i></p>	+	-	Depth Correction	<i>10.50</i>	Deduction for superstructures	<i>41.74</i>	Sheer correction	<i>2.88</i>	Round of Beam correction		Correction for Thickness of Deck amidships		Other corrections, scantlings, etc.			<i>55.12</i>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

<p><i>Starting d = 25.41</i></p> <p><i>C.S.S. d = 22.41</i></p> <p><i>3.00</i></p>	<p>Tropical Fresh Water Line above Centre of Disc</p> <p>Fresh Water Line " "</p> <p>Tropical Line " "</p> <p>Winter Line below " "</p> <p>Winter North Atlantic Line " "</p>
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2'-1/2"