

As a Tanker.
Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.Index. No. 31942
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker having <u>Forecastle - Trunk - R.Q.D.</u>					Port of Survey
(Type of Superstructures.)					Date of Survey <u>1-4-32</u>
Ship's Name <u>M.V. CALDERGATE</u>	Nationality and Port of Registry	Official Number	Gross Tonnage <u>138</u>	Date of Build <u>1926</u>	Name of Surveyor
Moulded Dimensions: Length <u>97.0</u> Breadth <u>17.125</u> Depth <u>8.54</u>					Particulars of Classification <u>+100A.1</u>
Moulded displacement at moulded draught = 85 per cent. of moulded depth					<u>Carrying Petroleum in Bulk</u>
Coefficient of fineness for use with Tables <u>75 assumed</u>					

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>8.54</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(8.56 - 6.47) × .746 = +1.56</u>	Moulded Breadth (B) <u>17.125</u>
Stringer plate <u>.02</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{17.125 \times 12}{50} = 4.11$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>4.50</u>
Depth for Freeboard (D) = <u>8.56</u>		Difference = <u>.39</u>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.39}{4} \left(1 - \frac{.8228}{17.125} \right) = .02$

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	<u>29.75</u>	<u>29.75</u>	<u>2'-6"</u>	<u>$\frac{2.56}{3.00}$</u>	<u>24.79</u>
„ overhang					
Bridge enclosed					
„ overhang aft					
„ overhang forward	<u>12.50</u>	<u>12.50</u>	<u>2'-6"</u>	<u>$\frac{2.56}{3.00}$</u>	<u>5.21</u>
F'cle enclosed					
„ overhang					
Trunk aft <u>54.75</u> <u>17.12</u>		<u>38.09</u>	<u>2'-6"</u>	<u>$\frac{2.56}{3.00}$</u>	<u>15.87</u>
„ forward					
Tonnage opening aft					
„ „ forward					
Total	<u>42.25</u>	<u>80.34</u>			<u>45.87</u>

Standard Height of Superstructure <u>6'-0"</u>
„ „ R.Q.D. <u>3'-0"</u>
Deduction for complete superstructure <u>15.7</u>
Percentage covered $\frac{S}{L} = \frac{43.55}{100}$
„ „ $\frac{S_1}{L} = \frac{82.83}{100}$
„ „ $\frac{E}{L} = \frac{47.28}{100}$
Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Percentage from Table, Line B. <u>38.28</u> (corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required)
Deduction = <u>15.7 × .3828 = -6.01</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>19.70</u>	1		<u>19.70</u>	<u>15.00</u>	<u>15.00</u>	1		<u>15.00</u>
$\frac{1}{4}$ L from A.P.	<u>8.77</u>	4		<u>35.08</u>	<u>6.81</u>	<u>6.81</u>	4		<u>27.24</u>
$\frac{2}{4}$ L „	<u>2.17</u>	2		<u>4.34</u>	<u>1.70</u>	<u>1.70</u>	2		<u>3.40</u>
Amidships	-	4		-	-	-	4		-
$\frac{3}{4}$ L from F.P.	<u>4.33</u>	2		<u>8.66</u>	<u>4.05</u>	<u>4.05</u>	2		<u>8.10</u>
$\frac{1}{4}$ L „	<u>17.54</u>	4		<u>70.16</u>	<u>16.19</u>	<u>16.19</u>	4		<u>64.76</u>
F.P.	<u>39.40</u>	1		<u>39.40</u>	<u>36.00</u>	<u>36.00</u>	1		<u>36.00</u>
Total				<u>177.34</u>					<u>154.50</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{22.84}{18} \left(.75 - \frac{21.77}{53.23} \right) = +.67$

If limited on account of midship superstructure. ✓

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

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = <u>8.56</u> Summer freeboard = <u>.54</u> Moulded draught (d) = <u>8.02</u> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>2.002</u> 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 <u>.75 + .68</u> <u>1.36</u> Depth Correction <u>1.56</u> Deduction for superstructures <u>6.01</u> Sheer correction <u>.67</u> Round of Beam correction <u>.02</u> Correction for Thickness of Deck amidships Other corrections, scantlings, etc. <u>2.23</u> <u>6.03</u> <u>-3.80</u> Summer Freeboard = <u>6.40</u>
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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	
Fresh Water Line „ „	
Tropical Line „ „	
Winter Line below „ „	
Winter North Atlantic Line „ „	

Tropical Fresh Water Freeboard	
Fresh Water „ „	
Tropical „ „	
Winter „ „	
Winter North Atlantic „ „	

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