

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

Ship's Name <u>DIANA.</u>	Official Number <u>302</u>	Nationality and Port of Registry <u>Italian</u> <u>Venice.</u>	Gross Tonnage <u>3347</u>	Date of Build <u>1923</u>	Port of Survey <u>Trieste</u>
Moulded Dimensions: Length <u>90.39m</u> Breadth <u>13.50m</u> Depth <u>9.00m</u> .					Date of Survey <u>May 1947.</u>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>7170 m<sup>3</sup></u> tons					Surveyor's Signature
Coefficient of fineness for use with Tables <u>.768</u>					Particulars of Classification <u>100A1 W. flo.</u> <u>class construction.</u>

<b>DEPTH FOR FREEBOARD (D).</b>	<b>DEPTH CORRECTION.</b>	<b>ROUND OF BEAM CORRECTION.</b>
Moulded depth ... .. <u>9.000</u>	(a) Where D is greater than Table depth	Moulded Breadth (B) <u>13.50 m</u>
Stringer plate <u>1.8 m/m</u> ... .. <u>.018</u>	$\frac{(D - \text{Table depth})}{2.992} R = \frac{(9.018 - 6.026)}{2.992} 22.525 = + 569 \text{ m/m}$	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{13.50 \times 12}{50} = 270 \text{ m/m}$
Sheathing on exposed deck	(b) Where D is less than Table depth (if allowed)	Ship's Round of Beam = <u>280 m/m</u>
$T \left( \frac{L-S}{L} \right) =$ <u>-</u>	(Table depth - D) R = <u>-</u>	Difference <u>10</u>
Depth for Freeboard (D) = <u>9.018</u>	If restricted by superstructures <u>-</u>	Restricted to <u>-</u>
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{10 \times 8095}{4} = -2$

<b>DEDUCTION FOR SUPERSTRUCTURES.</b>					Standard Height of Superstructure <u>1973 m/m</u>	
	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	" " R.Q.D. <u>892 m/m</u>
Poop enclosed ... ..						Deduction for complete superstructure <u>892 m/m</u>
" overhang ... ..						Percentage covered $\frac{S}{L} = \frac{26.90}{19.05} = 1.41$
R.Q.D. enclosed ... ..						" " $\frac{S_1}{L} = \frac{19.05}{19.05} = 1.0$
" overhang ... ..						" " $\frac{E}{L} = \frac{19.05}{19.05} = 1.0$
Bridge enclosed <u>open</u> ... ..	<u>13.420</u>	<u>6.710</u>	<u>2.30</u>		<u>6.710</u>	Percentage from Table, Line A. <u>.0953</u>
" overhang aft ... ..						(corrected for absence of forecastle (if required))
" overhang forward ... ..						Percentage from Table, Line B. <u>.1209</u>
F'cle enclosed ... ..	<u>10.12</u>	<u>10.120</u>	<u>2.10</u>		<u>10.120</u>	Interpolation for bridge less than .2L (if required) $9.53 + 2.56 \times .0742 = 9.53 + .19 = 9.72$
" overhang ... ..	<u>.78</u>	<u>.390</u>			<u>.390</u>	Deduction = $892 \times .1048 = -94 \text{ m/m}$
Trunk aft ... ..						
" forward ... ..						
Tonnage opening aft ... ..						
" " forward ... ..						
Total ... ..	<u>24.320</u>	<u>17.220</u>			<u>17.220</u>	

<b>SHEER CORRECTION.</b>								Mean actual sheer aft = <u>21</u>		
Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean standard sheer aft = <u>21</u>
A.P. ... ..	<u>1007</u>	1		<u>1007</u>	<u>1060</u>	<u>1060</u>	1		<u>1060</u>	
$\frac{1}{8}L$ from A.P. ... ..	<u>448</u>	4		<u>1792</u>	<u>460</u>	<u>460</u>	4		<u>1840</u>	
$\frac{2}{8}L$ " ... ..	<u>112</u>	2		<u>224</u>	<u>120</u>	<u>120</u>	2		<u>240</u>	
Amidships ... ..	<u>-</u>	4		<u>-</u>	<u>-</u>	<u>-</u>	4		<u>-</u>	
$\frac{3}{8}L$ from F.P. ... ..	<u>224</u>	2		<u>448</u>	<u>240</u>	<u>240</u>	2		<u>480</u>	
$\frac{4}{8}L$ " ... ..	<u>895</u>	4		<u>3580</u>	<u>920</u>	<u>920</u>	4		<u>3680</u>	
F.P. ... ..	<u>2014</u>	1		<u>2014</u>	<u>2120</u>	<u>2120</u>	1		<u>2120</u>	
Total ... ..				<u>9065</u>					<u>9420</u>	
Correction = $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{355(75 - 1345)}{18 \times 6155} = -12$										
If limited on account of midship superstructure. <u>Yes, no allowance.</u>										If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

<b>Deduction for Tropical Freeboard.</b>	<b>Deduction for Fresh Water.</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required)	<u>1083</u>
<b>Addition for Winter and Winter North Atlantic Freeboard.</b>	Displacement in salt water at summer load water line	Correction for coefficient $\frac{768 + .68}{1.36} = 1.448/1.36$	<u>1153</u>
Depth to Freeboard Deck = <u>9018</u>	$\Delta =$	Depth Correction ... .. <u>569</u>	
Summer freeboard = <u>76.386</u>	Tons per inch immersion at summer load water line	Deduction for superstructures ... .. <u>-</u>	<u>94</u>
Moulded draught (d) <u>2.632</u>	T =	Sheer correction ... .. <u>-</u>	<u>-</u>
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40 T}$ inches	Round of Beam correction ... .. <u>-</u>	<u>2</u>
Winter freeboard = $\frac{d}{4}$ inches =	=	Correction for Thickness of Deck amidships ... .. <u>-</u>	<u>-</u>
Addition for Winter North Atlantic Freeboard (if required) =		Other corrections, scantlings, etc. ... .. <u>10 06</u>	
		<u>1575</u> <u>96</u> <u>+ 1479</u>	
		Summer Freeboard = <u>2632</u>	

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc	...	Tropical Fresh Water Freeboard	...
Fresh Water Line	"	Fresh Water	"
Tropical Line	"	Tropical	"
Winter Line	below	Winter	"
Winter North Atlantic Line	"	Winter North Atlantic	"



$$\begin{array}{r} 147 \\ 163 \\ \hline 15 \\ 610 \\ \hline 90 \\ 15 \\ \hline 100 \\ 200 \\ \hline 9350 \\ 320 \\ \hline 9670 \end{array}$$

Wrightson

$$\begin{array}{r} 1.22 \times 2.0 \\ \hline 5.5 \end{array} = \begin{array}{r} .44 \\ 9.68 \\ \hline 10.12 \end{array}$$

1.22  
 .44  


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 .78 equiv o'hang

Fee £ .....