

# LLOYD'S REGISTER OF SHIPPING

## SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, ~~SAILING SHIP~~, TANKER)

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Ship's Name <b>NARPLION</b>	Official Number <b>970</b>	Nationality and Port of Registry <b>GREEK PIRAEUS.</b>	Gross Tonnage <b>1934</b>	Date of Build <b>1934</b>	Port of Survey <b>LONDON. HQ.</b>
Moulded Dimensions: Length <b>260.00'</b> Breadth <b>40.00'</b> Depth <b>26.00'</b>					Date of Survey <b>16. 3. 65</b>
Freeboard Length <b>260.68' To C.L. OF ROOER STOCK ON L.W.L.</b>					Surveyor's Signature
Moulded displacement at moulded draught = 85 per cent. of moulded depth ..... tons					Particulars of Classification <b>BS*</b>
Coefficient of fineness for use with Tables <b>.722</b>					

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth ... ..	<b>26.00</b>	(a) Where D is greater than Table depth (D-Table depth) R = <b>(26.03 - 17.38) 2.005 = + 17.34</b>		Moulded Breadth (B)	<b>40.00</b>
Stringer plate ... ..	<b>.39</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	<b>9.60</b>
Wood Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$				Ship's Round of Beam	<b>10.00</b>
Depth for Freeboard (D) = <b>26.03</b>		If restricted by superstructures		Difference	<b>.40</b>
				Restricted to	
				Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right)$	<b>= .10 x 9277 = -0.09</b>

DEDUCTION FOR SUPERSTRUCTURES.				
Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..				
" overhang ... ..				
R.Q.D. enclosed ... ..				
" overhang ... ..				
Bridge enclosed ... ..				
" overhang aft ... ..				
" overhang forward ... ..				
F'cle enclosed <b>OPEN</b> ... ..	<b>18.85</b>	<b>7.0'</b>	<b>-</b>	<b>18.85</b>
" overhang <b>WITHIN .1L</b> ... ..				
Trunk aft ... ..				
" forward ... ..				
Tonnage opening aft ... ..				
" " forward ... ..				
Total ... ..	<b>18.85</b>			<b>18.85</b>

Standard Height of Superstructure **73.28"**  
 " " R.Q.D. **-**  
 Deduction for complete superstructure **32.07**  
 Percentage covered  $\frac{S}{L} =$  } **7.23**  
 " "  $\frac{S_1}{L} =$  }  
 " "  $\frac{E}{L} =$  }  
 Percentage from Table, Line A. **3.615**  
 (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 = **.03615 x 32.07 = -1.16"**

SHEER CORRECTION.							
Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ... ..	<b>36.07</b>	1	<b>36.07</b>	<b>36.00</b>	<b>36.00</b>	1	<b>36.00</b>
$\frac{1}{4}$ L from A.P. ... ..	<b>16.05</b>	4	<b>64.20</b>	<b>15.99</b>	<b>15.99</b>	4	<b>63.96</b>
$\frac{2}{4}$ L " ... ..	<b>3.97</b>	2	<b>7.94</b>	<b>3.99</b>	<b>3.99</b>	2	<b>7.98</b>
Amidships ... ..	<b>0</b>	4	<b>0</b>	<b>0</b>	<b>0</b>	4	<b>0</b>
$\frac{3}{4}$ L from F.P. ... ..	<b>7.93</b>	2	<b>15.86</b>	<b>8.04</b>	<b>8.04</b>	2	<b>16.08</b>
$\frac{1}{4}$ L " ... ..	<b>32.10</b>	4	<b>128.40</b>	<b>32.11</b>	<b>32.11</b>	4	<b>128.44</b>
F.P. ... ..	<b>72.14</b>	1	<b>72.14</b>	<b>72.20</b>	<b>72.20</b>	1	<b>72.20</b>
Total ... ..			<b>324.61</b>				<b>324.66</b>

Mean actual sheer aft = **DEFICIENT BUT > .75 STANDARD**  
 Mean standard sheer aft =  
 Mean actual sheer forward = **EXCESS**  
 Mean standard sheer forward =  
 Length of enclosed superstructure forward of amidships = } **NIL**  
 " " aft of " = }  
 Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{.05}{18} \times (.75 - .0362) = \text{NIL.}$   
 If limited on account of midship superstructure. ✓  
 If limited to maximum allowance of  $1\frac{1}{4}$  ins. per 100ft. ✓

Deduction for Tropical Freeboard.		Deduction for Fresh Water.		TABULAR FREEBOARD corrected for PARTIAL Flush Deck (if required)		Correction for coefficient	
26.03 ✓ 6.33 ✓ 19.70 ✓ 19.10 1/2 ✓	Depth to Freeboard Deck = <b>7.935</b> Summer freeboard = <b>1.930</b> Moulded draught (d) = <b>6.005</b> 2.10" Keel allowance = <b>.3</b> Extreme draught = <b>6.058</b> Deduction for Tropical freeboard and addition for = Winter freeboard = $\frac{d}{4}$ inches = <b>1.51</b> Addition for Winter North Atlantic Freeboard (if required) = <b>1.25 + .51 = 1.76</b>	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 $\frac{d}{4} = 1.25$		<b>34.543 + (.15 x 7.22)</b> <b>722 + .68</b> <b>1.36</b> <b>1.03088</b>			
				Depth Correction ... ..	<b>17.34</b>		
				Deduction for superstructures ... ..	<b>- 1.16</b>		
				Sheer correction ... ..	<b>-</b>		
				Round of Beam correction ... ..	<b>- 0.09</b>		
				Correction for Thickness of Deck amidships ... ..	<b>-</b>		
				Other corrections, scantlings, etc. To CORRESPOND TO A, S.M. DRAUGHT OF 19.70' (6.005 m).	<b>23.18</b>		
					<b>40.52</b>	<b>1.25</b>	<b>+ 39.27</b>
					Summer Freeboard = <b>76.00" = 19307</b>		

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

Tropical Fresh Water Line above Centre of Disc **250 7/8**  
 Fresh Water Line " " **125 7/8**  
 Tropical Line " " **125 7/8**  
 Winter Line below " " **125 7/8**  
 Winter North Atlantic Line " " **176 7/8**

Tropical Fresh Water Freeboard **1930 7/8**  
 Fresh Water " " **1680 7/8**  
 Tropical " " **1805 7/8**  
 Winter " " **2055 7/8**  
 Winter North Atlantic " " **2106 7/8**

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