

LLOYD'S REGISTER OF SHIPPING

SURVEYS FOR FREEBOARD

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

Received
 Index No.
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 Owners C11

Ship's Name ARMATHIA	Official Number	Nationality and Port of Registry GREEK PIRAEUS.	Gross Tonnage 7088.85	Date of Build 1942	Port of Survey
Moulded Dimensions: Length 410.24 Breadth 57.25 Depth (UPPER DECK) 38'-0" Freeboard Length To & Stack					Date of Survey 13-7-64
Moulded displacement at moulded draught = 85 per cent. of moulded depth (UPPER DECK) 16680 tons (excluding bossing)					Surveyor's Signature
Coefficient of fineness for use with Tables 0.768					Particulars of Classification

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth	38' 00"	(a) Where D is greater than Table depth (D-Table depth) R = (38.00-27.39)3 = +32.01"		Moulded Breadth (B)	57.25'
Stringer plate	0.66"	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	13.74"
Wood Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		If restricted by superstructures		Ship's Round of Beam	14.50
Depth for Freeboard (D) =	38.06			Difference	Excess = .76
				Restricted to	
				Correction = $\frac{\text{Diff.}}{4} \times \left(1 - \frac{S}{L} \right)$	= $\frac{.76}{4} \times .9257 = -.18"$

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					
" overhang aft					
" overhang forward					
F'cle enclosed	28.08	28.08	7.5	-	28.08
" overhang	3.0	2.46			2.46
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	31.08	30.54			30.54

Standard Height of Superstructure **7.50'**
 " " R.Q.D.
 Deduction for complete superstructure **42"**
 Percentage covered $\frac{S}{L} =$ **7.56**
 " " $\frac{S_1}{L} =$ **7.43**
 " " $\frac{E}{L} =$ **3.72**
 Percentage from Table, Line A. **3.72**
 (corrected for absence of fore-castle (if required))
 Percentage from Table, Line B.
 (corrected for absence of fore-castle (if required))
 Interpolation for bridge less than .2L (if required)
 Deduction = **42 x .0372 = -1.56"**

SHEER CORRECTION.							
Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S
A.P.	51.09	1	51.09	38.75	38.75	1	38.75
$\frac{1}{2}$ L from A.P.	22.735	4	90.94	16.00	16.00	4	64.00
$\frac{2}{3}$ L "	5.62	2	11.24	4.00	4.00	2	8.00
Amidships	0	4	0	0	0	4	0
$\frac{2}{3}$ L from F.P.	11.24	2	22.48	9.25	9.25	2	18.50
$\frac{1}{2}$ L "	45.47	4	181.88	37.25	37.25	4	149.00
F.P.	102.19	1	102.19	84.00	84.00	1	84.00
Total			459.82				362.25

Mean actual sheer aft = **DEFICIENT**
 Mean standard sheer aft = **DEFICIENT**
 Mean actual sheer forward = **DEFICIENT**
 Mean standard sheer forward = **DEFICIENT**
 Length of enclosed superstructure forward of amidships = **NIL**
 " " aft of " = **NIL**
 SHEER FORWARD

11.24	3	33.72	9.25	3	27.75
45.47	2	90.94	37.25	3	111.75
102.19	1	102.19	84.00	1	84.00
		212.32			223.50

 Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75-S}{2L} \right) = \frac{97.57}{18} \left(\frac{.75-.0278}{.7122} \right) = +3.86$
 If limited on account of midship superstructure. If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100ft.

Deduction for Tropical Freeboard.		Deduction for Fresh Water.		TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line $\Delta = 14457$		Correction for coefficient $\frac{0.768+.63}{1.36} = 1.448/1.36$	
Depth to Freeboard Deck = 11.600	Summer freeboard = 2.968	Tons per inch immersion at summer load water line $T = 48.68$	Deduction = $\frac{\Delta}{40 T}$ inches 7.42"	Depth Correction	32.01
Moulded draught (d) = 8.632	Keel allowance =			Deduction for superstructures	- 1.56
Extreme draught =	Deduction for Tropical freeboard and addition for =			Sheer correction	3.86
Winter freeboard = $\frac{d}{48}$ inches = 180mm				Round of Beam correction	- 0.18
Addition for Winter North Atlantic Freeboard (if required) =				Correction for Thickness of Deck amidships	-
				Other corrections, scantlings, etc. To Corrected To A SUMMER MOULDED DRAFT OF 28.32 FEET.	1.30
					37.17
					1.74
					+35.43
					Summer Freeboard = 116.85 = 2968mm

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

Tropical Fresh Water Line above Centre of Disc	369mm	Tropical Fresh Water Freeboard	2599mm
Fresh Water Line " "	189mm	Fresh Water " "	2779mm
Tropical Line " "	180mm	Tropical " "	2728mm
Winter Line below " "	180mm	Winter " "	3148mm
Winter North Atlantic Line " "		Winter North Atlantic " "	not required

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