

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. **22942**
(For London Office only.)

6 AUG 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker
 having Unenclosed and bridge Prælus
Baltrove IONIA (Type of Superstructures.) Greek

Ship's Name IONIA Nationality and Port of Registry Greek Gross Tonnage 4916 Date of Build 1913-4

Moulded Dimensions: Length 349.4 Breadth 49.75 Depth 14.06 (Shell to 5.5)
 Moulded displacement at moulded draught = 85 per cent. of moulded depth
 Coefficient of fineness for use with Tables .734 assumed free type

Port of Survey New York
 Date of Survey July 26, 1932
 Name of Surveyor W. H. Smith

Particulars of Classification + A1
5.5 Q No 3-10.25
5.5 N 4K No 1-29

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	34.08	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	49.75
Stringer plate	.04	(34.12 - 23.29) 2.688 = +29.11		Standard Round of Beam = $\frac{B \times 12}{50}$	11.94
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	✓	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	12.5
Depth for Freeboard (D) =	34.12	If restricted by superstructures	✓	Difference	.56
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L})$	$= \frac{.56}{4} \times .5301 = -.07$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure <u>6.99</u>
" overhang ...						" " R.Q.D. <u>✓</u>
R.Q.D. enclosed ...						Deduction for complete superstructure <u>38.63</u>
" overhang ...	117.13	117.13	8.00	✓	117.13	Percentage covered $\frac{S}{L} = \frac{47.71}{60} = .795$
Bridge enclosed ...	9.95	7.46			7.46	" " $\frac{S_1}{L} = \frac{46.99}{60} = .783$
" overhang aft ...	39.62	39.62	7.50	✓	39.63	" " $\frac{E}{L} = \frac{46.99}{60} = .783$
" overhang forward ...						Percentage from Table, Line A. <u>✓</u>
Forecastle enclosed ...						(corrected for absence of forecastle (if required)) <u>✓</u>
" overhang ...						Percentage from Table, Line B. <u>33.44</u>
Trunk ...						(corrected for absence of forecastle (if required)) <u>✓</u>
" forward ...						Interpolation for bridge less than 2L (if required) <u>✓</u>
Tonnage opening aft ...						Deduction = $38.63 \times .3344 = -$
" " forward						
Total ...	106.70	164.21			164.21	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	44.94	1	44.94	45.00	45.00	1	45.00			Mean actual sheer aft = Deficient > 75
1/2 L from A.P. ...	20.00	4	80.00	19.75	19.75	4	79.00			Mean actual sheer forward = Excess
1/4 L " ...	4.94	2	9.88	4.94	4.94	2	9.88			Mean standard sheer forward
Amidships ...	✓	4	✓	✓	✓	4	✓			Length of enclosed superstructure forward of amidships = 7
3/4 L from F.P. ...	9.89	2	19.78	9.97	9.97	2	19.94			" " aft of " = 7
1/2 L " ...	39.99	4	159.96	39.90	39.90	4	159.60			
F.P. ...	89.88	1	89.88	90.00	90.00	1	90.00			
Total ...			404.44				403.42			

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{1.02}{18} \times (.75 - .2385) = +.03$

If limited on account of midship superstructure. ✓ If limited to maximum allowance of 1 1/2 ins. per 100 ft. 5.115

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	Correction for coefficient $\frac{.734 + .68}{1.36} = \frac{1.414}{1.36}$
Depth to Freeboard Deck = <u>34.33</u>	$\Delta =$	Depth Correction ... <u>29.11</u>
Summer freeboard = <u>7.52</u>	Tons per inch immersion at summer load water line	Deduction for superstructures ... <u>✓ 12.0</u>
Moulded draught (d) = <u>26.81</u>	T =	Sheer correction ... <u>.03</u>
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction ... <u>✓</u>
Winter freeboard = $\frac{d}{4}$ inches = <u>6.70 = 6 3/4</u>	= <u>6 3/4</u>	Correction for Thickness of Deck amidships ... <u>2.50</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>✓</u>		Other corrections, scantlings, etc. ... <u>42.9</u>
		Construction <u>44</u>

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

Tropical Fresh Water Line above Centre of Disc	13 1/2	Tropical Fresh Water Freeboard	
Fresh Water Line	6 3/4	Fresh Water	
Tropical Line	6 3/4	Tropical	
Winter Line below	6 3/4	Winter	
Winter North Atlantic Line	✓	Winter North Atlantic	



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Lloyd's Register
Foundation

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Description of Hatchway	No. 1.	No. 2.	No. 3.	No. 4.	
Dimensions of Hatchway	18' 7 1/2" x 16' 0"	14' 9 1/2" x 15' 11"	24' 9 1/2" x 15' 11"	11' 7 1/2" x 15' 11"	
COAMINGS	Height above Deck	30"	30"	30"	30"
	Thickness	44"	46"	46"	44"
	Stiffeners	7/8" x 1 1/4"	7/8" x 1 1/4"	7/8" x 1 1/4"	7/8" x 1 1/4"
	Brackets, Stays	none	none	none	none
HATCH BEAMS	Number	3	4	4	4
	Spacing	4' 5 1/2"	4' 9 1/2"	4' 9 1/2"	4' 5 1/2"
	Scantling and Sketch	1 1/2" x 10' 0"	same as No. 1	1 1/2" x 10' 0"	1 1/2" x 10' 0"
	Bearing Surface	1/2"	1/2"	1/2"	1/2"
FORE AND AFTERS	Number				
	Spacing				
	Unsupported Lengths				
	Scantling and Sketch				
HATCH COVERS	Material	wood	wood	wood	wood
	Thickness	3"	3"	3"	3"
	How fitted	E.A.	E.A.	E.A.	E.A.
	Bearing Surface	3"	3"	3"	3"
Spacing of Cleats	24"	24"	24"	24"	
Number of Tarpaulins	3	3	3	3	

Note
An old tarpsheet opening situated immediately aft of No. 4 hatch (18' 7 1/2" x 15' 11") on the shelter deck, is now closed by means of a caulked wood skylight of strong construction. ✓

- *Are wood fore and afters steel shod at all bearing surfaces? ✓
- Are battens and wedges efficient and in good condition? ✓
- Are tarpaulins in good condition and in accordance with rule requirements? ✓
- Are lashings provided in accordance with rule requirements? ✓

Particulars of fiddley, funnel and ventilator coamings:— Fiddley has 3" angle bar coaming, riveted to top of casing on bridge deck. Fiddley closed by 1/2" steel hinged covers, clipped from below. There are no openings in the funnel. E.K. skylight coaming in 1/2" high at sides. At center closed with satisfactory steel covers, secured from below 20" dia. nuts to b.h. — 8" r. coaming 3 1/2" above casing top } to deck, but in prohibited positions. Wood covers & canvas provided. ✓

Flush Bunker Scuttles:—

None. ✓

panionways:—

None. ✓

lators in exposed positions on freeboard and superstructure decks:—

— 12" dia. cold vents (20' 9" high, 20' 7 1/2" high) x 1/2" coamings, stayed. ✓
inside of cold vents 2" diam. mushroom type. 24" x 1/2" " ✓
at plugs & canvas provided for all vents. ✓

ipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

at scuppers, one a 2 1/2" dia. 8" above deck. Wood plug provided for closing. ✓
bottom scuppers are 3" dia. and are flush with deck, closed by a screwed plug on deck. (No dead plug.) ✓

and Coaling Ports:—

Two coaling ports (18' 15") in inner deck space, ✓
deck doors — with three chaulbachs on each. ✓
Two coaling doors (18' 15") in inner deck ✓
deck doors — with one chaulbach on each.

Particulars of Scuppers and Sanitary Discharge Pipes

Scuppers in forward well. Forward well scuppers overboard - 4" x 1" hole in funnel bar. Bridge deck scuppers overboard - 4" x 1" hole in funnel bar. Aft shelter deck scuppers overboard similar to forward well. Scuppers to all toilet & sanitary discharges from spaces below finished deck have bronze steam valves fitted. ✓

Particulars of Side Scuttles:

But steel headlight are fitted on all portlights except those on bridge and forecabin. ✓

Particulars of Guard Rails:

56" open rails on forecabin - three rails. closed bulwark in forward well for portion of length (see sketch) 46" high, 6" R.A. rail, stays 40" apart. Two rails in open portion. Similarly on shelter deck aft, (see sketch). 46" plate bulwark on bridge deck, stays 44" apart. ✓

Particulars of Gangways, Lifelines, etc.:

Land rails on house sides.

Suitable provision for rigging lifelines when required in the forward & after weather portions of the freeboard deck.

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well ...						
Forward Well ...						

Bulwarks partly open (see sketch) ✓

position of each freeing port ... and A. position and height above deck edge) } After Well:—
Forward Well:—
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

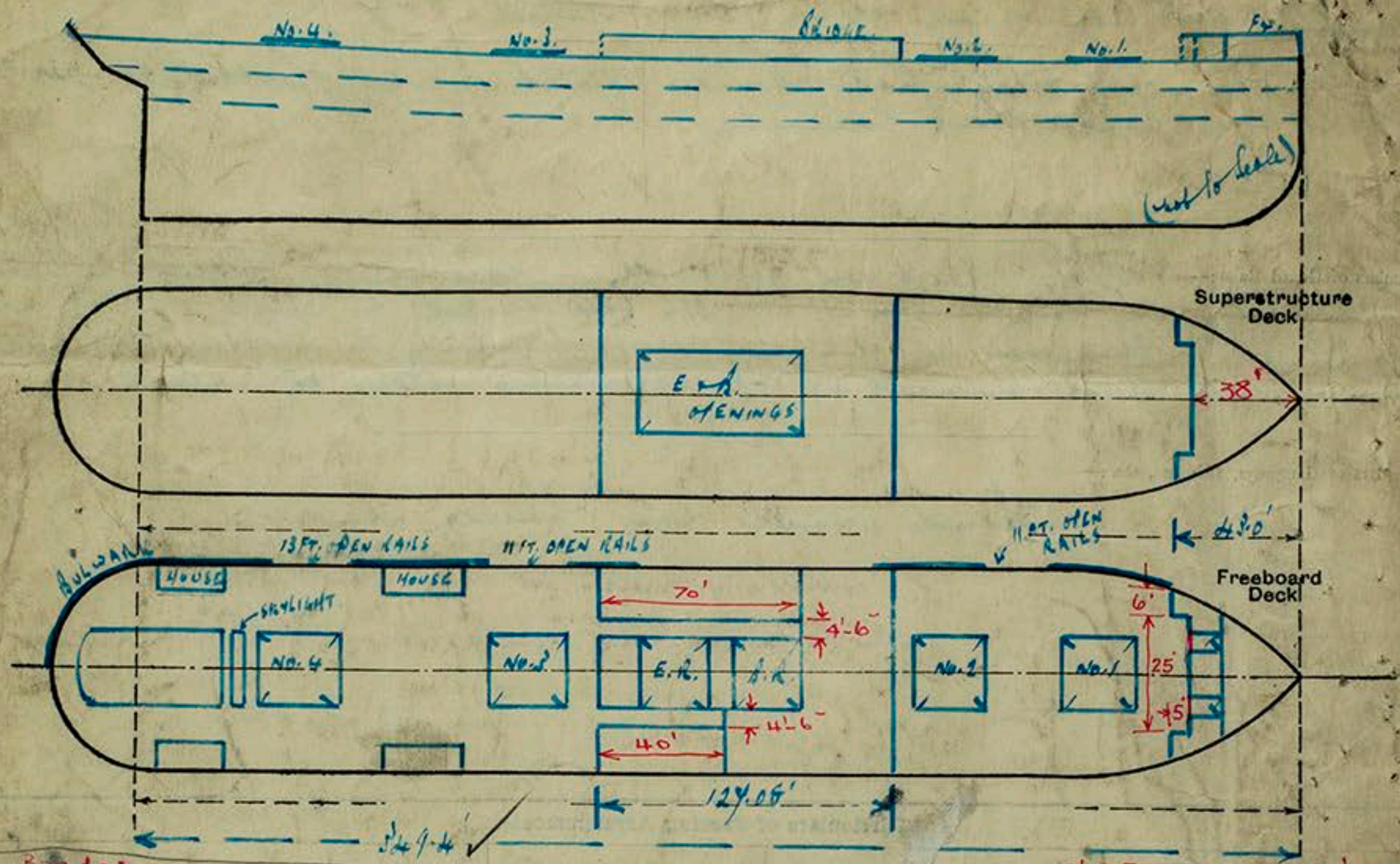
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	✓							
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ...	none	1/4"				Open Passageways	✓	8'-0"
Bridge, Forward Bulkhead ...	1/2"	3/8"				none	✓	8'-0"
Forecastle Bulkhead ...	none	1/4"	1 x 1 x 1/2"	26"	none	5' x 2' (15")	19"	4'-6"
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Freeboard on Raised Quarter Decks ...	50	38	3 1/2 x 3 1/2 x 38 double OA @ 48"		no blts	20 x 23 x 54" P.	16"	
Exposed Machinery Casings on Superstructure Decks ...	50	38	3 1/2 x 3 1/2 x 38 double OA @ 48"		no blts	none		
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	✓							
Deckhouses on Flush Deck Ships ...	✓							

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ...	✓
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ...	Open Passageways with hinged wood doors fitted at fore & aft doors. ✓
Bridge, Forward Bulkhead ...	7/16" steel hinged plate doors. operable from both sides. ✓
Forecastle Bulkhead ...	2 steel hinged doors - capable of manipulation from both sides. ✓
Machinery Casings on Freeboard on Raised Quarter Decks ...	no openings
Machinery Casings on Superstructure Decks ...	no openings
Casings within Superstructures fitted with Class I Closing Appliances ...	no openings
Deckhouses on Flush Deck Ships ...	no openings

Balticover

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown in the following sketches:—



$$\text{Bridge LEN} = 127.08'$$

$$\frac{70 \times 4.5 + 40 \times 4.5}{49.75} = \frac{9.95}{117.13} = \text{Equi B}^{40}$$

$$\text{P.C.L.E. L} = 43.00$$

$$\text{less } \frac{12.5 \times 5}{18.5} = \frac{3.38}{39.62} = \text{E.}$$

State any special features in the construction of the ship:— This vessel was surveyed while lying afloat at New York, North River, New York.

Draught @ 21'-9 1/2" draft - 5000 tons } Taken from plans.
 " @ 24'-4" " - 5500 " }

[Large handwritten signature]

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