

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. **32462**
(For London Office only.)

21 FEB 1933

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Having COMPLETE SUPERSTRUCTURE WITH TONNAGE OPENING
(Type of Superstructures.)

Port of Survey ROTTERDAM

Date of Survey 16-18 / 2-1933

Name of Surveyor W. van der Noot

Particulars of Classification IT-100A1
SS. S. No 1-31. WITH FREEBOARD

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>RENE S. EMBIRICOS</u>	<u>GREEK ANDROS</u>		<u>4164</u>	<u>1927</u>

Moulded Dimensions: Length 392.50 Breadth 52.00 Depth 26-10"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 10219 tons

Coefficient of fineness for use with Tables .769

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <u>26.833</u>	(a) Where D is greater than Table depth (D - Table depth) R = $(26.88 - 26.17) 3.00$ = <u>+ 2.13"</u>	Moulded Breadth (B) <u>52.00</u>
Stringer plate ... <u>.05</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>✓</u>	Standard Round of Beam = $\frac{B \times 12}{50}$ = <u>12.48</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>✓</u>	If restricted by superstructures <u>✓</u>	Ship's Round of Beam = <u>1.25 - 15.00</u>
Depth for Freeboard (D) = <u>26.88</u>		Difference <u>2.52" excess</u>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right)$ = $\frac{2.52}{4} \times .008 = -.01$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>36.45</u>	<u>36.45</u>	<u>9'-6"</u>		<u>36.45</u>
" overhang ...	<u>1.25</u>	<u>1.25</u>			<u>1.25</u>
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...	<u>348.25</u>	<u>348.25</u>	<u>8'-0"</u>		<u>348.25</u>
" overhang forward ...					
F'cle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	<u>5.20</u>	<u>5.20</u>			<u>5.20</u>
" " forward ...					
Total ...	<u>392.50</u>	<u>389.37</u>	<u>12'-0"</u>		<u>389.37</u>

Standard Height of Superstructure 7.425'

" " R.Q.D. ✓

Deduction for complete superstructure 41.50

Percentage covered $\frac{S}{L} = 100\%$ ✓

" " $\frac{S_1}{L} = 99.20\%$ ✓

" " $\frac{E}{L} = 99.20\%$ ✓

Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) 99.01%

Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Inpolation for bridge less than 2L (if required)

Deduction = $41.50 \times .9901 = -41.09'$

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	<u>49.25</u>	<u>1</u>	<u>49.25</u>	<u>36"</u>	<u>60.90</u>	<u>1</u>	<u>60.90</u>
1/4 L from A.P. ...	<u>21.91</u>	<u>4</u>	<u>87.64</u>	<u>16.19</u>	<u>27.10</u>	<u>4</u>	<u>108.40</u>
1/2 L " ...	<u>5.42</u>	<u>2</u>	<u>10.84</u>	<u>4.05</u>	<u>6.70</u>	<u>2</u>	<u>13.40</u>
Amidships ...	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>4</u>	<u>✓</u>
3/4 L from F.P. ...	<u>10.83</u>	<u>2</u>	<u>21.66</u>	<u>7.90</u>	<u>13.96</u>	<u>2</u>	<u>27.92</u>
1/4 L " ...	<u>43.82</u>	<u>4</u>	<u>175.28</u>	<u>31.60</u>	<u>56.47</u>	<u>4</u>	<u>225.88</u>
F.P. ...	<u>98.50</u>	<u>1</u>	<u>98.50</u>	<u>72.1</u>	<u>126.90</u>	<u>1</u>	<u>126.90</u>
Total ...			<u>443.07</u>	<u>145.49</u>			<u>563.40</u>

Mean actual sheer aft = Excess

Mean standard sheer aft = Excess

Mean actual sheer forward = Excess

Mean standard sheer forward = Excess

Length of enclosed superstructure forward of amidships = L

" " aft of " = CSS.

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L}\right) = \frac{120.23}{18} (.75 - .50) = -1.67'$

If limited on account of midship superstructure. ✓If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Ft.

Depth to Freeboard Deck = 26.88

Summer freeboard = 2.75

Moulded draught (d) = 24.13

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $6.03 = 6"$

on for Winter North Atlantic Freeboard (if Add: required = ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 10.929$

Tons per inch immersion at summer load water line

$T = 40.5$

Deduction = $\frac{\Delta}{40T}$ inches

= $6.78" = 6\frac{3}{4}"$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{68 + .769}{1.36} = \frac{144.9}{1360}$

Depth Correction ... 2.13

Deduction for superstructures ... 41.09

Sheer correction ... 1.67

Round of Beam correction01

Correction for Thickness of Deck amidships ... -

Other corrections, scantlings, etc. ... -

69.17

73.70

+

-

2.13

41.09

1.67

.01

-

-

Summer Freeboard = 33.06

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

Tropical Fresh Water Line above Centre of Disc 323 = 12 3/4"

Fresh Water Line " " 171 = 6 3/4"

Tropical Line " " 152 = 6"

Winter Line below " " 152 = 6"

Winter North Atlantic Line " " ✓

Tropical Fresh Water Freeboard ... 2'-9" = 838"

Fresh Water " " 1'-8 1/4" = 515"

Tropical " " 2'-2 1/4" = 667"

Winter " " 2'-3" = 686"

Winter North Atlantic " " 3'-3" = 990"

PARTICULARS OF PROTECTION TO OPENINGS ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECK											
Description of Hatchway		SHELTER DECK			FREEBOARD DECK						
Dimensions of Hatchway		I	II + IV + V	III	H	I	II + IV + V	III	A	B	C
COAMINGS	Height above Deck	2' 6"	2' 6"	2' 6"	2' 6"	2' 6"	2' 6"	2' 6"	2' 6"	2' 6"	2' 6"
	Thickness	44	44	44	44	44	44	44	44	44	44
	Stiffeners	B.A. 7 x 3	B.A. 7 x 3	B.A. 7 x 3	B.A. 7 x 3	B.A. 7 x 3	B.A. 7 x 3	B.A. 7 x 3	B.A. 7 x 3	B.A. 7 x 3	B.A. 7 x 3
	Brackets, Stays	W. I.	STAYS	STAYS	STAYS	STAYS	STAYS	STAYS	STAYS	STAYS	STAYS
	Number	5	5	3	5	5	2	2	2	2	2
HATCH BEAMS	Spacing	5	5	3	5	5	2	2	2	2	2
	Scantling and Sketch	17 x 36	13 x 34	17 x 34	21 x 36	18 x 36	18 x 36	18 x 36	18 x 36	18 x 36	18 x 36
	Bearing Surface	44	44	44	44	44	44	44	44	44	44
	Number	5	5	3	5	5	2	2	2	2	2
FORE AND AFTERS	Spacing	5	5	3	5	5	2	2	2	2	2
	Unsupported Lengths	5	5	3	5	5	2	2	2	2	2
	Scantling* and Sketch	17 x 36	13 x 34	17 x 34	21 x 36	18 x 36	18 x 36	18 x 36	18 x 36	18 x 36	18 x 36
	Bearing Surface	44	44	44	44	44	44	44	44	44	44
HATCH COVERS	Material	3	3	3	3	3	3	3	3	3	3
	Thickness	3	3	3	3	3	3	3	3	3	3
	How fitted	3	3	3	3	3	3	3	3	3	3
	Bearing Surface	3	3	3	3	3	3	3	3	3	3
Spacing of Cleats		NOT EXCEEDING 24"									
Number of Taraulins		NOT EXCEEDING 24"									

*Are wood fore and afters steel shod at all bearing surfaces? ✓
 Are battens and wedges efficient and in good condition? YES ✓
 Are tarpaulins in good condition and in accordance with rule requirements? YES ✓
 Are lashings provided in accordance with rule requirements? CARGO MATCHES ON SHELTERDECK MANILLA LASHINGS. 3 RINGS EACH SIDE.

Particulars of fiddle, funnel and ventilator coamings:— Protected by bridge and above shelterdeck by strong steel deck house; also partly exposed.
 Top fiddle, funnel, ventilators, skylight, saddleback hatch of an efficient complete battening arrangement. Saddleback hatch has a complete battening arrangement. Fiddle gratings have strong finger steel covers.

Particulars of Flush Bunker Scuttles:—

None fitted.

Particulars of Companionways:— On afterdeck in strong steel house; access to crew's quarters in sheltered underdecks. Vert. plating 30" Stiffeners 5 x 3 x 36 x 28"
 2 Ordinary hinged steel doors 4' 6" x 23" operated from both sides.
 Stells 15" wood deck.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 Foredeck (Shelterdeck) 1 Vent. dia. 8" Coaming 30" x 34" with Ruler
 Shelterdeck 8 Vents. — 22" — 36" x 40"
 " 2 " — 17" — 31" x 40"
 " aft. 1 " — 16" — 29" x 30" Wood plugs and
 " 1 " — 17" — 28" x 30" canvas covers available

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

Shelterdeck 1 air F.P.T. 3" x 20"
 8 — (D.B.T. 2 1/2" x 20"
 6 — (D.B.T. 3 1/2" x 18"
 Wood plugs available.

Particulars of Gangway Cargo and Coaling Ports:—

None fitted.



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Greene S. Embiricos

Particulars of Scuppers and Sanitary Discharge Pipes - All sanitary discharge pipes lead from spaces
situated above the freeboard deck and are fitted with
non-return valves on ship's side.
Shelter in deck spaces, also the homagewell scuppers overboard
with non return valves.

Particulars of Side Scuttles:
Only in crew's space aft of a substantial construction
and fitted with hinged steel deadlight.

Particulars of Guard Rails:- Fore- and afterdeck guard rails:- 3 Rods, twisted
stanchions 3'-6 1/2" x 5'-5". Portable abreast
hatches in twisted sockets.
Amidships a bulwark which forms no well; height 3'-6".

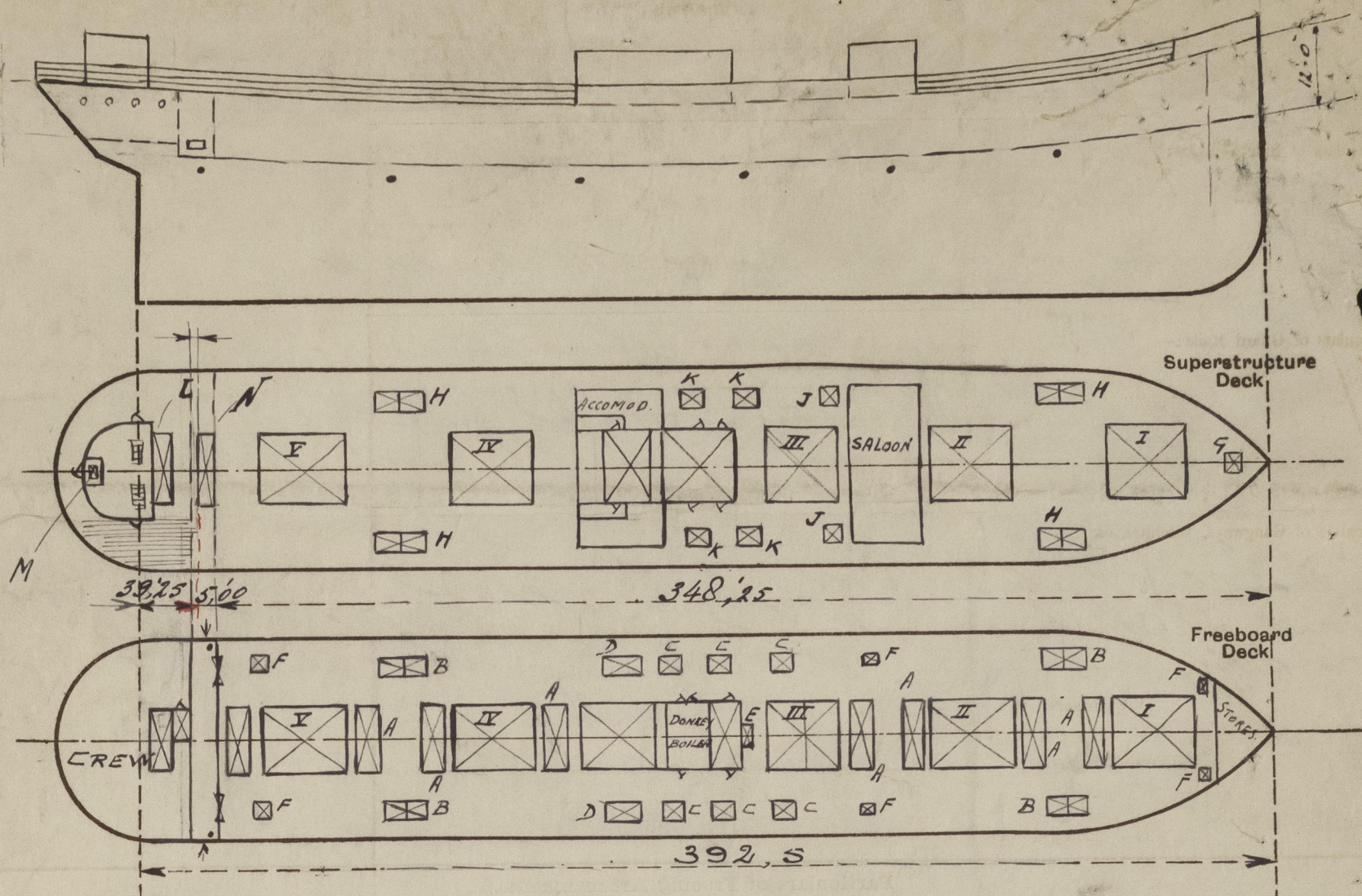
Particulars of Gangways, Lifelines, etc.:-
Manilla lifelines will now be supplied for use on fore-
and afterdeck for use by the crew in the regular working
of the ship.

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	11	In homagewell	one freeing port each side.			
Forward Well		see our accompanying letter.			
State position of each freeing port } After Well:- (F. and A. position and height above deck edge) } 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 Bulkhead32"	4 6" x 3 1/2" x .30"	27"	✓	✓	✓	
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead		DITTO	POOP FRONT			2 x 4' 9 1/2" x 3' 0 1/2"	15"	
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks	.38"	.36"	4 3 1/2" x 3 1/2" x .36"	27"	✓	4 x 4' 6" x 1' 11"	18"	7'-9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances30"	.30"	DITTO	27"	✓	2 x 4' 6" x 2' 1"	18 1/2"	
Deckhouses on Flush Deck Ships ...						2 x 4' 9" x 1' 11"	21"	

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	✓ <i>Inter</i>
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	2 1/2" Stormboards in twisted E full length
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks	Ordinary hinged steel doors, operated from both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Ditto
Deckhouses on Flush Deck Ships ...	✓

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 shewn on the following sketches:—



Hatch D in Tweendeck bunkerspace 43'-0" x 4'-6". Coaming B.A. 9" x 3 1/2" x 50".
 Complete battening arrangement.
 Small trimming hatch E 5'-2" x 2'-7". Coaming 12". Complete battening arrangement.

State any special features in the construction of the ship:—

Escape hatch F. 2'-0" x 2'-0". Coaming 9". Hinged steel cover, 6 buggles.
 Leak hatch G. 4'-0" x 2'-0". Coaming 15" x 36". Complete battening arrangement.
 4 Access hatches H. 8'-0" x 3'-5". See page 2.
 2 Ditto J. 3'-3" x 3'-3". Coaming 30" x 40". Complete battening arr.
 4 Coal hatches K. 12'-2" x 3'-5". Coaming 30" x 40". Complete battening arr.
 Store hatch L aft. 10'-6" x 5'-10". Coaming 27" above local wood deck x 40".
 Complete battening arrangement.
 Store hatch M. 3'-0" x 3'-0". Inside steel whellain and protected by
 ordinary hinged steel door, sill 18". Coaming 3 1/2". No battening
 arrangement.
 Trimming hatch N. 20'-0" x 5'-0 1/2". Coaming 12".
 Efficient wood cover and temporary closing
 funnel escape in crew's quarters: ordin. hinged steel
 door, sill 17".

Builder's name and yard number Short Bros Ltd. Sunderland.

Names of sister ships S. G. Embricos.

Owners

Fee of 153.00. Will be Received by me

Expenses of 5.50.

Rotterdam 20th February 1933

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