

Lloyd's Register of Shipping.

5 DEC 1932

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(For London Office only.)

SURVEYS FOR FREEBOARD. F. 19.

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <u>LISBON.</u>	
having <u>Roop, Bridge & Forecastle. Well Deck.</u>					Date of Survey <u>26th Nov^r 1932.</u>	
(Type of Superstructures.)					Name of Surveyor <u>G. T. B. Scullard</u>	
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	Particulars of Classification <u>44100 A1</u>	
<u>LIMA.</u>	<u>PORTUGUESE.</u> <u>LISBON</u>	<u>405E</u>	<u>3880.88</u> <u>3865</u>	<u>1907</u>	<u>S. S. Lis. No. 1-29.</u>	
Moulded Dimensions: Length <u>351.06</u> Breadth <u>45.</u> Depth <u>28.10</u>						
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>8328</u> tons						
Coefficient of fineness for use with Tables <u>.753 rounded.</u>						
Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth <u>28.83</u>			(a) Where D is greater than Table depth (D-Table depth) R = <u>(28.98 - 23.40) 2.700 = +15.07</u>		Moulded Breadth (B) <u>45</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 = $\frac{B \times 12}{50} = 10.80$ "	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .25 \times .4103$ <u>.10</u>			If restricted by superstructures <u>✓</u>		Ship's Round of Beam = <u>11.00</u> "	
Depth for Freeboard (D) = <u>28.98</u>					Difference <u>.20</u> "	
					Restricted to	
					Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.20}{4} \times .4103 = -.02$ "	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>40'</u>	<u>40.00</u>	<u>7.83</u>	<u>✓</u>	<u>40.00</u>	Standard Height of Superstructure <u>7.01</u>
" overhang			<u>+3" Wood</u>			" " R.Q.D. <u>✓</u>
R.Q.D. enclosed						Deduction for complete superstructure <u>38.73</u>
" overhang						Percentage covered $\frac{S}{L} = 63.80\%$
Bridge enclosed... ..	<u>115'</u>	<u>115.00</u>	<u>8</u>	<u>✓</u>	<u>115.00</u>	" " $\frac{S_1}{L} = 58.97\%$
" overhang aft			<u>+3" Wood</u>			" " $\frac{E}{L} = 58.97\%$
" overhang forward						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Deck enclosed	<u>69'</u>	<u>52.05</u>	<u>8</u>	<u>✓</u>	<u>52.05</u>	Percentage from Table, Line B. <u>44.97%</u> (corrected for absence of forecastle (if required))
" overhang			<u>+3" Wood</u>			Interpolation for bridge less than .2L (if required)
Trunk aft						Deduction = <u>38.73 × 44.97 = -17.42"</u>
" forward						
Tonnage opening aft						
" " forward						
Total	<u>224.00</u>	<u>207.05</u>			<u>207.05</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>45.11</u>	1		<u>45.11</u>	<u>42</u>	<u>42.00</u>	1		<u>42.00</u>
$\frac{1}{2}$ L from A.P.	<u>20.08</u>	4		<u>80.32</u>	<u>14</u>	<u>14.75</u>	4		<u>79.00</u>
$\frac{2}{3}$ L "	<u>4.96</u>	2		<u>9.92</u>	<u>1</u>	<u>1.99</u>	2		<u>9.88</u>
Amidships	<u>✓</u>	4		<u>✓</u>	<u>0</u>	<u>✓</u>	4		<u>✓</u>
$\frac{2}{3}$ L from F.P.	<u>9.92</u>	2		<u>19.84</u>	<u>14</u>	<u>10.22</u>	2		<u>20.14</u>
$\frac{1}{2}$ L "	<u>40.15</u>	4		<u>160.60</u>	<u>46</u>	<u>46.28</u>	4		<u>161.12</u>
F.P.	<u>90.22</u>	1		<u>90.22</u>	<u>90</u>	<u>90.00</u>	1		<u>90.00</u>
Total				<u>406.01</u>					<u>402.14</u>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{3.87}{18} (.75 - .319) = +.09"$$

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.

Depth to Freeboard Deck =	<u>29.17</u>
Summer freeboard =	<u>4.99</u>
Moulded draught (d) =	<u>24.18</u>

Deduction for Tropical freeboard and addition for

$$\text{Winter freeboard} = \frac{d}{4} \text{ inches} = \frac{24.18}{4} = 6.04" = 153 \frac{1}{4} \text{ mm}$$

Addition for Winter North Atlantic Freeboard (if required = ✓)

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta =$$

Tons per inch immersion at summer load water line

$$T =$$

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

$$= 153 \frac{1}{4}$$

TABULAR FREEBOARD corrected for Plank Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<u>15.07</u>	<u>-</u>
Deduction for superstructures	<u>-</u>	<u>17.42</u>
Sheer correction	<u>.09</u>	<u>-</u>
Round of Beam correction	<u>-</u>	<u>.02</u>
Correction for Thickness of Deck amidships	<u>2.30</u>	<u>-</u>
Other corrections, scantlings, etc.	<u>-</u>	<u>-</u>
	<u>17.46</u>	<u>17.44</u>

$$\text{Summer Freeboard} = 59.88$$

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

Tropical Fresh Water Line above Centre of Disc	<u>306</u>	Tropical Fresh Water Freeboard	<u>1215</u>
Fresh Water Line " "	<u>153</u>	Fresh Water " "	<u>1368</u>
Tropical Line " "	<u>153</u>	Tropical " "	<u>1368</u>
Winter Line below " "	<u>153</u>	Winter " "	<u>1674</u>
Winter North Atlantic Line " "	<u>✓</u>	Winter North Atlantic " "	<u>✓</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	Nº 1	Nº 2	Nº 3	Nº 4	Nº 5		
Dimensions of Hatchway	...	...	10' 9" x 14' 11"	12' 10" x 14' 11"	25' 10" x 14' 11"	17' 2" x 14' 11"	12' 10" x 14' 11"		
COAMINGS	Height above Deck	...	33"	36"	36"	36"	36"		
	Thickness ... Sides	...	1 7/8" 16/100	1 7/8" 16/100	1 7/8" 16/100	1 7/8" 16/100	1 7/8" 16/100		
	Thickness ... Ends	...	1 7/8" 16/100	1 7/8" 16/100	1 7/8" 16/100	1 7/8" 16/100	1 7/8" 16/100		
	Stiffeners	...	—	—	11 x 4 x 1/2	—	—		
	Brackets, Stays	...	—	—	5 7/8" 7 1/2 x 3 1/2 x 1/2	—	—		
HATCH BEAMS	Number	...	2	1 beam	3 beams	2 beams	2 beams		
	Spacing	...	3' 6 1/2"	1 web	2 webs	1 web	—		
	Scantling and Sketch	...	9 x 5 1/2 x 1/2"	1 beam as N° 1	3 beams as N° 1	2 beams as N° 2	2 beams as N° 1		
	Bearing Surface	...	2"	2"	2"	2"	2"		
FORE AND AFTERS	Number	...	—	—	—	—	—		
	Spacing	...	—	—	—	—	—		
	Unsupported Lengths	...	—	—	—	—	—		
	Scantling and Sketch	...	—	—	—	—	—		
	Bearing Surface	...	—	—	—	—	—		
HATCH COVERS	Material	...	U.P.	U.P.	as N° 2	as N° 2	as N° 2		
	Thickness	...	2 1/2"	2 1/2"	—	—	—		
	How fitted	...	F & A	F & A	—	—	—		
	Bearing Surface	...	2 3/4"	2 3/4"	—	—	—		
Spacing of Cleats	...	...	23"	19"	20"	24"	25"		
Number of Tarpaulins	...	...	3	3	3	3	3		

*Are wood fore and afters steel shod at all bearing surfaces? *Yes*

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? *Yes*

Hatch Beams sheets fit in solid bridge shaped sockets. Ends of beams sheets welded.

Particulars of fiddley, funnel and ventilator coamings :—

Stakehold gratings covered by portable shul plates.
E.C. skylight of shul strongly constructed.
all ventilators in good condition.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways :—

Particulars of Companionways:—
 No. 2 hatch in way of aftermost beam has been trunked to lower deck, & made
 an entrance to 3^d class. Length of entrance 4.3½ full width of coaming.
 Wood coaming 9½ high with braced covers p. 18.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

Wood plugs + canvas covers all vents.

el. 1-9'x36' file locker; 1-10'x36', 1-5½'x34", 2-9'x32' cmo quarter
1-10'x33', 2-7'x33' 3' class + 4 goose-neck 24'x7'x4½ with hinged covers.
2-10'x34", 1-15'x42' doors + 2 camp stools 22"
frames 3-12'x36' stools / wood plugs and.
after - 2-12'x36' " / some hinged covers to ~~panels~~ ^{to} in goose-neck vents.

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

Openings of Air pipes now have permanently fitted perforated plates.

Fl 1 f 5' x 22". In wells 6 - 2 1/2" x 23" b o - b. Tanks.

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Gangway Cargo and Coaling Ports:—

Breast No 2 hatch	1st	half-depth bulwark	comp-doors	12' 3" x 2' 3"	2	stays to deck.
" " 3	"	"	"	14' 6" x 2' 3"	3	" " "
" " 4	"	"	"	12' 6" x 2' 3"	3	" " "
" " 5	"	"	"	9' 1" x 2' 7"	2	" " "
Foreward S. gangway door	2' 8"	12" sill.	2	slip bolts.		
Coaling ports 1st	30" x 30"	hinged at top.	Bolts screwed through plate,	7/8"		
			pitch	5 1/2"		

Particulars of Scuppers and Sanitary Discharge Pipes —

Particulars of Scuppers and Sanitary Discharge Pipes

Particulars	Quantity
Sanitary discharges fitted with r.h. valves.	1
Scuppers, no valves.	1

Particulars of Side Scuttles :

Particulars of Side Scuttles:

Side Scuttles strongly constructed with efficient deadlights.

Particulars of Guard Rails :—

Particulars of Guard Rails:—

Yds.	1' 8"	2' 9"	3' 11"	Spacing of Stanchions	4' 4"
ft.	1. 2	2. 0	2. 10	3. 8	4' 5"

Particulars of Gangways, Lifelines, etc. :—

2

1906?

Particulars of Freeing Arrangements.

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	55'	50"	3.0' x 15"	1	3.75.	12.0 ϕ
Forward Well	68'	50"	3.0' x 15"	3	11.25.	13.6 ϕ

State position of each freeing port } After Well:— 33.7' from Bulkhead after Bulkhead. } 13" above deck.
 (F. and A. position and height above deck edge) } Forward Well:— 22.2, 26.2, 61.2' from Fore Bulkhead. }
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Hinged shutters + one rail

Additional area where sheer is less than standard.

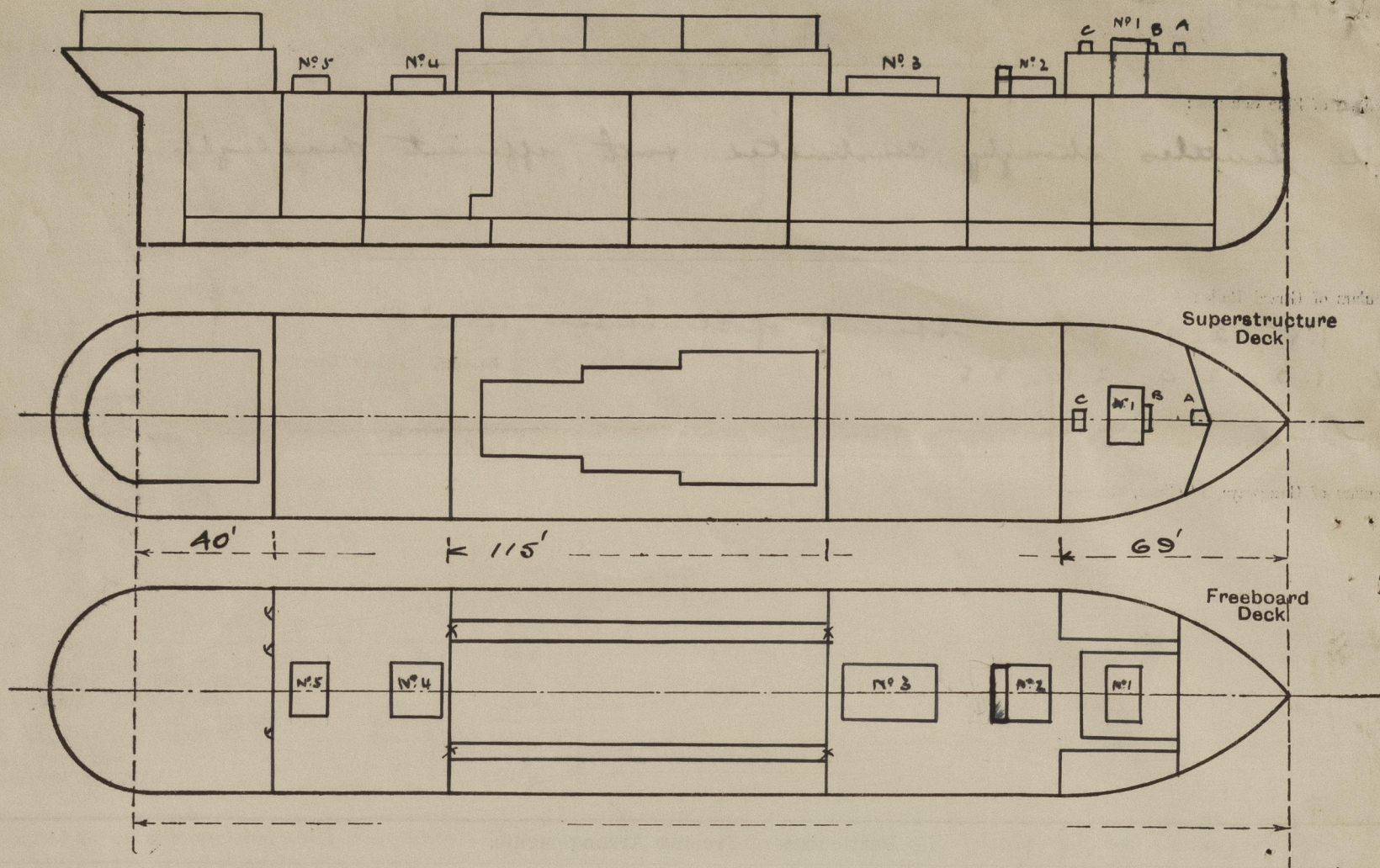
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	$\frac{1}{2}''$	$\frac{7}{16}''$	$6'' \times 3\frac{1}{2}'' \times \frac{1}{2}''$	$29''$	Bracket Plate	$5'0'' \times 40''$ $5'0'' \times 36''$ $5'0'' \times 37''$	} $12''$	$7'8''$
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	-	$\frac{3}{8}''$	$6'' \times 3'' \times \frac{7}{16}''$	$30''$	-	$18'' \times 23''$ $5'0'' \times 30''$ $5'0'' \times 36''$	} $16''$	$7'8''$
Bridge, Forward Bulkhead	$\frac{1}{2}''$	$\frac{7}{16}''$	$6'' \times 3'' \times \frac{3}{8}''$	$30''$	Bracket Top	$5'0'' \times 29''$			$16''$	$7'8''$
Forecastle Bulkhead	Open							
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super- structure Decks								
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	$\frac{7}{16}''$	$\frac{1}{4}''$	$3\frac{1}{2}'' \times 3'' \times \frac{1}{2}''$	$36''$	Bracket Top	$8'0'' \times 24''$ $5'0'' \times 29''$	} $16''$	$7'8''$
Deckhouses on Flush Deck Ships ...								

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

<p>Poop Bulkhead</p> <p>Raised Quarter Deck Bulkhead ...</p> <p>Bridge, After Bulkhead</p> <p>Bridge, Forward Bulkhead</p> <p>Forecastle Bulkhead</p> <p>Exposed Machinery Casings on Free-board or Raised Quarter Decks ...</p> <p>Exposed Machinery Casings on Super-structure Decks</p> <p>Machinery Casings within Superstructures not fitted with Class I Closing Appliances</p> <p>Deckhouses on Flush Deck Ships ...</p>	<p>1st - hinged bulk doors. Painted both sides, with hinged steel covering doors painted outside only.</p> <p>2 steel hinged w. T. doors.</p> <p>3 " " plates for gallery windows. Painted inside.</p> <p>2 steel hinged w. T. doors.</p> <p>Others.</p> <p>Hinged tank door to engine room. Painted both sides.</p> <p>" " " " " " " " " " " "</p>
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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:—



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

- A. Steel skylight 3' x 4', 21" size, 1 hinge steel cover.
- B. " " 2' 3" x 6' 0", 19" " 3 " " "
- C. " " 4' 1" x 3' 9", 27" " 2 " " "

Vessel examined in drydock 6.32 then examined afloat.

Deadweight scale. 22' 4 1/2" - 3,500; 23' 7 1/2" - 4,000; 23' 11 1/2" - 4,342; 24' 10 1/2" - 4,500.

Builder's name and yard number Furness, Withy & Co. Ltd. W. Hartlepool.

Names of sister ships _____

Owners Empresa Insulana de Navegação.

Fee £ _____ Received by me _____



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