

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *Flash Deck with Forecastle*

Port of Survey **BARCELONA**

Date of Survey *5th, 7th April 1934*

Name of Surveyor *Plm. J. Thoma*

Particulars of Classification *F 100 A1
with freeboard.*

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"CIUDAD DE BARCELONA"	Spanish Palma de Mallorca		3946	1929-8

Moulded Dimensions: Length *100.89* 334 Breadth *14.88* 48.83 Depth *19.10* 19.10
Moulded displacement at moulded draught = 85 per cent. of moulded depth
Coefficient of fineness for use with Tables *690*

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	8509	(a) Where D is greater than Table depth (D-Table depth) R = $8.33(8.673-6.726)25.48$		Moulded Breadth (B)	<i>48.83</i> 14.88
Stringer plate	12	= $+392$ m.m.		Standard Round of Beam = $\frac{B \times 12}{50}$	= 298 m.m.
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = 65 \times .8006$	<i>52</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = \checkmark		Ship's Round of Beam	= 152 "
Depth for Freeboard (D) =	<i>8573</i>	If restricted by superstructures \checkmark		Difference	146 "
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	= $\frac{146}{4} \times .8006 = +29.7$

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	<i>20.12</i>				
F'cle enclosed ...	<i>66.0</i>	20.12	7.3	(Closed)	20.12
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	20.12	20.12			20.12

Standard Height of Superstructure *2078*
" " R.Q.D. \checkmark
Deduction for complete superstructure *950*
Percentage covered $\frac{S}{L} = 19.94\%$
" " $\frac{S_1}{L} = 19.94\%$
" " $\frac{E}{L} = 19.94\%$
Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) *9.97%*
Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) \checkmark
Interpolation for bridge less than $\cdot 2L$ (if required)
Deduction = $950 \times .0997 = -95$ m.m.

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>1094</i>		1	<i>1094</i>	<i>920</i>		1		<i>920</i>
$\frac{1}{2}L$ from A.P. ...	<i>43.1</i>		4	<i>1724</i>	<i>36.2</i>		4		<i>1448</i>
$\frac{3}{4}L$ " ...	<i>19.46</i>		2	<i>38.92</i>	<i>19.74</i>		2		<i>39.48</i>
Amidships ...	<i>0</i>		4	<i>0</i>	<i>0</i>		4		<i>0</i>
$\frac{1}{2}L$ from F.P. ...	<i>24.3</i>		2	<i>48.6</i>	<i>8.35</i>		2		<i>16.70</i>
$\frac{3}{4}L$ " ...	<i>9.48</i>		4	<i>37.92</i>	<i>23.49</i>		4		<i>93.96</i>
F.P. ...	<i>86.2</i>		1	<i>86.2</i>	<i>73.8</i>		1		<i>73.8</i>
Total ...	<i>2189</i>			<i>7847</i>					<i>8194</i>

Mean actual sheer aft = *Deficient*
Mean standard sheer aft

Mean actual sheer forward = *Deficient*
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *Sheet*
" " aft of " = *deficient*

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{1653}{18} (.75 - .0997) = +60$ m.m.
If limited on account of midship superstructure. \checkmark
If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. \checkmark

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *8586* Ft.
Summer freeboard = *2714*
Moulded draught (d) = *5872*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *122* m.m.

Addition for Winter North Atlantic Freeboard (if required) = \checkmark

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$
Tons per inch immersion at summer load water line

$T =$

Deduction = $\frac{\Delta}{40T}$ inches
= *1906 = 127* m.m.

TABULAR FREEBOARD corrected for Flash Deck (if required)

Correction for coefficient

$\frac{.69 + .68}{1.36} = \frac{1.37}{1.36}$

Depth Correction ... *392* -

Deduction for superstructures ... - *95*

Sheer correction ... *60* -

Round of Beam correction ... *29* -

Correction for Thickness of Deck amidships ... *12* -

Other corrections, scantlings, etc. ... *1004* -

Summer Freeboard = *2714*

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

Tropical Fresh Water Line above Centre of Disc ...	<i>249 = 9.80</i>	Tropical Fresh Water Freeboard ...	<i>2465 = 97.03</i>
Fresh Water Line " " ...	<i>127 = 5.00</i>	Fresh Water " " ...	<i>2587 = 101.83</i>
Tropical Line " " ...	<i>122 = 4.80</i>	Tropical " " ...	<i>2592 = 102.03</i>
Winter Line below " " ...	<i>122 = 4.80</i>	Winter " " ...	<i>2836 = 111.63</i>
Winter North Atlantic Line " " ...	\checkmark	Winter North Atlantic " " ...	\checkmark

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	No 6	No 7	No 8	No 9
Dimensions of Hatchway	11'8" x 9'10"	15'8" x 15'6"	18'7" x 17'2"						
COAMINGS	Height above Deck ... 12 1/2" Thickness ... 1/4" Stiffeners ... 1/4" Brackets, Stays ...	31 1/2" 1/4" 1/4" Longitudinal 7" BA at sides one 6" BA stay at center	31 1/2" 1/4" 1/4"						
HATCH BEAMS	Number ... 12 Spacing ... 16" Scantling and Sketch ...	Two Even	Two Even						
	Bearing Surface ... 3 1/2"	3 1/2"	3 1/2"						
FORE AND AFTERS	Number ... Spacing ... Unsupported Lengths ... Scantling and Sketch ...	None							
	Bearing Surface ...								
HATCH COVERS	Material ... White Pine Thickness ... 2 1/2" How fitted ... F+A Bearing Surface ... 3" on beam, 2" on steel deck	as No 1.							
Spacing of Cleats	22-24"	20-21"	20-24"						
Number of Tarpaulins	X	X	X						
*Are wood fore and afters steel shod at all bearing surfaces? <i>None</i> Are battens and wedges efficient and in good condition? <i>Yes</i> Are tarpaulins in good condition and in accordance with rule requirements? <i>Yes</i> Are lashings provided in accordance with rule requirements? <i>Yes - rings fitted</i>									

Particulars of fiddle, funnel and ventilator coamings:-

*Motor vessel - funnel coaming in good order - 2 small steel doors in coaming.
Wood Plank coaming covers provided for all ventilators*

Particulars of Flush Bunker Scuttles:-

None

Particulars of Companionways:-

None - except within coamings

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

*2 ventilators on forecassle dk with coamings 7'6" high but suitably stayed
Gummy deck rest.
Keels aft with coamings 7'6" supported by aft boat deck*

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

*on forecassle deck.
on upper deck amidships protected by bulwark P.
on upper deck aft provided with canvas bag cover.*

Particulars of Gangway Cargo and Coaling Ports:-

*Gangway Cargo doors as shown in sketch in ship's side P+S way of No 3 Hold between upper & 2nd deck.
Size of opening in shell 1.900m x 1.900m
Double steel W.T. doors (miller joint) strong construction - permanently attached
Center Bar fitted, each 1/2 door secured by 9-1" eye bolts & clamps.
Set of door 6" above 2nd dk.
Gangway Luggage door as per sketch. P+S way for end body accom.
Size of opening 33" x 58"
Single steel W.T. door (miller joint) strong construction - permanently attached
Set 24" above 2nd dk.*

Ciudad De Barcelona

Particulars of Scuppers and Sanitary Discharge Pipes - *All Scuppers & Sanitary Discharges from spaces above upper deck fitted with non-return valves, positive means of closing.
All Sanitary Discharges from spaces below upper deck discharge below 2nd dk and are fitted with non-return valves, positive means of closing controlled from above 2nd deck level*

Particulars of Side Scuttles: *Port Holes as per sketch - Set at 30" below upper dk
- Set at 34"-36" below 2nd dk in 3rd & 4th accom fwd
- Set at 40" " " 2nd dk aft.
all fitted with permanently attached W.T. deadlight (jointed).*

Particulars of Guard Rails:- *on forecassle & aft part of upper dk as indicated in sketch.
Particulars:- Stanchions spaced 38"-44"
Rails spaced 9 1/2"*

Particulars of Gangways, Lifelines, etc.:-

None fitted

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
From Bridge front to After Well aft midship Deck House	150'-0"	48" above steel deck gutters	31" x 16"	4	13.74 4 open rails	30.00 ϕ
Between forecassle bulkhead Forward Well bridge front	26'-9"	48"	None		?	8.98 ϕ
State position of each freeing port ... After Well:- as per sketch (F. and A. position and height above deck edge) Forward Well:- 7 1/2" above wood dk. State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:- <i>fitted with shutters</i> 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								
Bridge, Forward Bulkhead			2 Heavy F.A. web stiffeners	Even		48" x 45"	12 1/2"	
Forecassle Bulkhead			120% x 80% x 10% 1 x 3 x 2 1/2 x 1/16	24-27"		39" x 62"	12"	7'3"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances		6 1/4"	< 3' x 2 1/2 x 5/16	26-30"		24' x 71"	10"	
Deckhouses on Flush Deck Ships		6 1/4"	< 3' x 2 1/2 x 5/16	24"			13"	

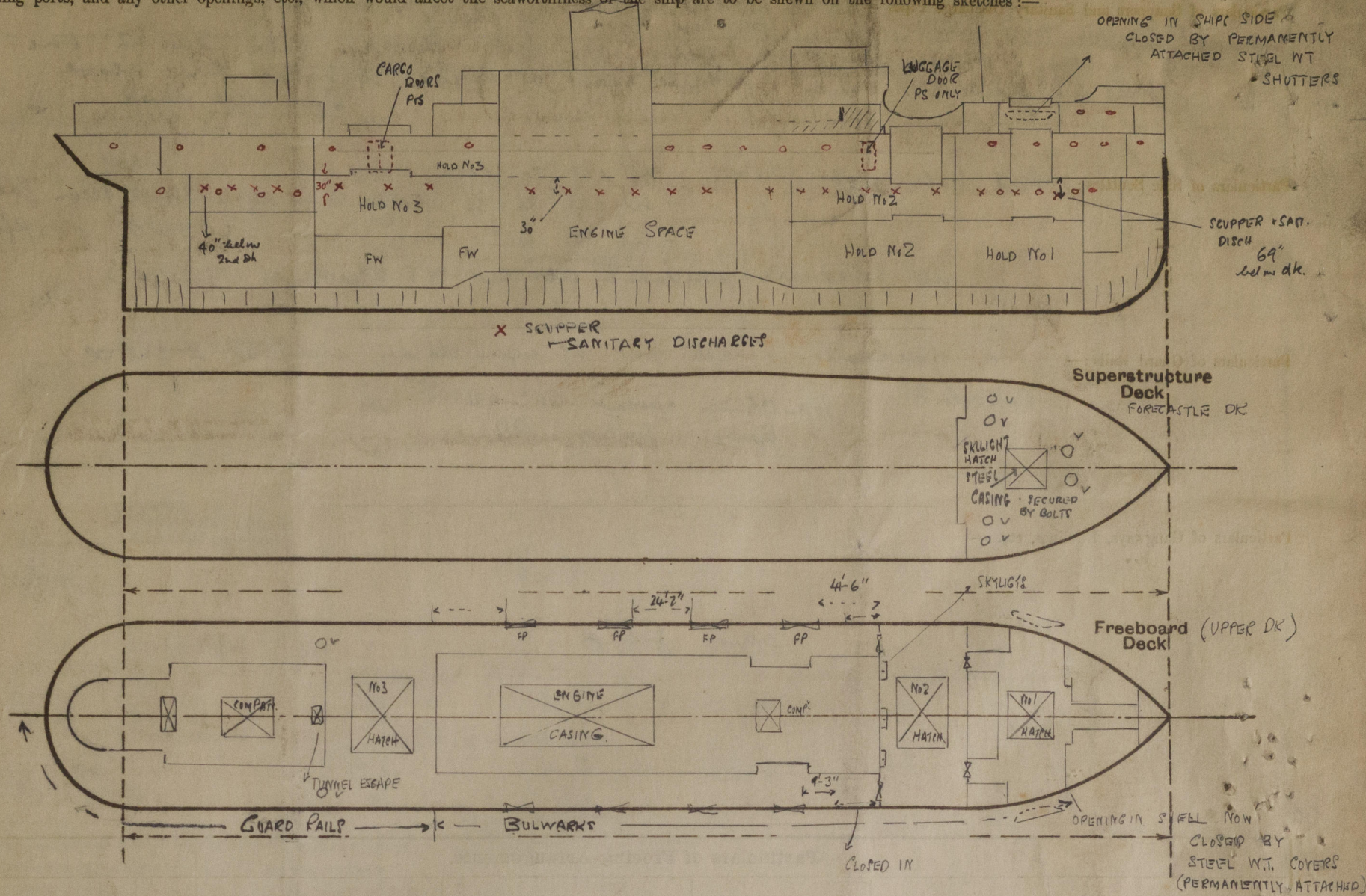
Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	Flanged steel doors 8 1/4" thick permanently attached & operated from both sides.
Forecassle Bulkhead	Double teak wood doors 1 1/2" framing into stout 1/2-3/4" paneling
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	3/16" steel doors operated from both sides
Deckhouses on Flush Deck Ships	Teak wood doors 2" framing 1/2-3/4" paneling - operated from both sides 3/16" steel doors operated from both sides

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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 shown on the following sketches:—



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

Vessel Surged afloat.

The Forecastle on this vessel is now a closed superstructure, the side openings in shell having been closed by permanently attached steel plate shutters with W.T. joints. Leak wood doors are fitted to the bulkhead entrances as shown in above sketch.

See amended computation dated 18/5/34

Height of lowest sidelight of non-underwater portion = $19'-0\frac{1}{2}"$ above G.P. of keel.
 Maximum permissible moulded draught = $19'-0\frac{1}{2}" - 6" = 18'-6\frac{1}{2}"$

Moulded Depth = $27'-11"$
 Ship's = $\frac{1}{2}"$
 Wood Deck = $2\frac{1}{2}"$
 $28'-2"$
 $18'-6\frac{1}{2}"$
 Corresponding feet = $9'-7\frac{1}{2}" = 2934 \text{ mm}$

Builder's name and yard number. Cant. Nav. Inestino - Monfalcone.

Names of sister ships. 'Ciudad de Palma'

Owners. Cia Transmediterranea.

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