

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

30889

Computation of Freeboard for Steamer, (Sailing Ship, Tanker)

having complete superstructure with tonnage opening — Super-imposed forecastle; steel deckhouses amidships and aft.
(Type of Superstructures.)

Port of Survey BilbaoDate of Survey March to May 1943Name of Surveyor R. ZubiagaParticulars of Classification + 100 A1
Shade Deck

Ship's Name

Nationality and Port of Registry
Spanish
BarcelonaOfficial Number
E.A.M.Gross Tonnage
8278.81Date of Build
1923 -
Rebuilt 1943

Moulded Dimensions: Length 146.30 Breadth 18.59 Depth 10.9
Moulded displacement at moulded draught = 85 per cent. of moulded depth 17511 tons
Coefficient of fineness for use with Tables 0.678

Depth for Freeboard (D)

Moulded depth 10.900
Stringer plate 12
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$ -

Depth for Freeboard (D) = 10.912

Depth correction

(a) Where D is greater than Table depth
(D - Table depth) R = $(10.912 - 146.30) 250$
 $= 1.158 \times 250 = 290.8$
(b) Where D is less than Table depth (if allowed)
(Table depth - D) R =

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) 18590
Standard Round of Beam = $\frac{B-12}{50} = 372$
Ship's Round of Beam = 306
Difference 66
Restricted to $\frac{-66}{4} \cdot (1 - \frac{144.3}{146.3})$
Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = + 0.25$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed <u>equivalent</u>	<u>8.27</u>	<u>8.27</u>	<u>2.44</u>	-	<u>8.27</u>
" overhang <u>0.72-0.17</u>	<u>0.55</u>	<u>0.55</u>	"	-	<u>0.55</u>
R.Q.D. enclosed	<u>0.47</u>	<u>0.47</u>	"	-	<u>0.47</u>
" overhang					
Bridge enclosed...					
" overhang aft	<u>0.72</u>	<u>0.75</u>	<u>2.44</u>	-	<u>0.54</u>
" overhang forward					
Table enclosed <u>bridge</u>	<u>135.13</u>	<u>135.13</u>	<u>2.44</u>	-	<u>135.13</u>
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<u>144.67</u>	<u>144.21</u>			<u>144.21</u>

Standard Height of Superstructure 2.29" " R.Q.D. 1067Deduction for complete superstructure 1067Percentage covered $\frac{S}{L} = \frac{144.67}{146.30} = 98.89\%$ " $\frac{S_1}{L} = \frac{144.21}{146.30} = 98.56\%$ " $\frac{E}{L} = \frac{144.21}{146.30} = 98.5\%$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B: $87.7 + \frac{8.5}{12.3} = 98.16\%$

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $1067 \times 0.9816 = 1047$

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<u>1473</u>	1	<u>1473</u>	<u>876</u>	<u>876</u>	1	<u>876</u>
$\frac{1}{8}L$ from A.P. ...	<u>654</u>	4	<u>2616</u>	<u>229</u>	<u>229</u>	4	<u>916</u>
$\frac{2}{8}L$ " ...	<u>164</u>	2	<u>328</u>	<u>-57</u>	<u>-57</u>	2	<u>-102</u>
Amidships ...	<u>-</u>	4	<u>-</u>	<u>-</u>	<u>-</u>	4	<u>-</u>
$\frac{3}{8}L$ from F.P. ...	<u>327</u>	2	<u>654</u>	<u>437</u>	<u>437</u>	2	<u>874</u>
$\frac{4}{8}L$ " ...	<u>1308</u>	4	<u>5232</u>	<u>1280</u>	<u>1280</u>	4	<u>5120</u>
F.P. ...	<u>2946</u>	1	<u>2946</u>	<u>2556</u>	<u>2556</u>	1	<u>2556</u>
Total ...			<u>13249</u>				<u>10240</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{13249 - 10240}{18} \left(75 - \frac{144.67}{2 \times 146.30} \right) = + 42.7$

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 = 10.918
Summer freeboard = 1.732

Moulded draught (d) = 9.186

Correction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48} = \frac{9.186}{48} = 191$

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 17343$ metric tons

Tons per cm immersion at summer load water line

M.T. = 22.76Deduction = $\frac{\Delta}{4T} = \frac{17343}{4 \times 22.76} = 190$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	<u>290.5</u>	<u>1049</u>
Deduction for superstructures ...	<u>43</u>	<u>1047</u>
Sheer correction ...	<u>427</u>	<u>-</u>
Round of Beam correction ...	<u>-2</u>	<u>-</u>
Correction for Thickness of Deck amidships ...	<u>20</u>	<u>-</u>
Other corrections, scantlings, etc. <u>with further assigned by Spanish authorities.</u>	<u>353</u>	<u>1049</u>
Summer Freeboard =	<u>1732</u>	<u>1750</u>

SUMMER FREEBOARD amidships from Centre of

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line " "

Tropical Line " "

Winter Line below " "

Winter North Atlantic Line " "

Disc to top of Deck Line, wood, Steel, Deck381 mm (381)190 mm (190)191 mm (191)191 mm (191)191 mm (191)

Tropical Fresh Water Freeboard

Fresh Water

Tropical

Winter


Winter North Atlantic

1351 mm1342 mm1344 mm1323 mm1323 mm17501361156015591941

AS

MARKED

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS														
Freeboard Deck						Superstructure Deck								
Description of Hatchway	N.1	N.2	N.3	N.4	N.5	N.1	N.2	N.3	N.4	N.5		
Dimensions of Hatchway	...	Length x Breadth	5.49 x 4.60 m	14.48 x 4.90 m	7.97 x 4.90 m	13.03 x 4.90 m	5.79 x 4.90 m	4.80 x 4.60 m	14.48 x 4.90 m	7.97 x 4.90 m	13.03 x 4.90 m	5.79 x 4.90 m		
COAMINGS	{	Height above Deck	230	230	230	230	230	690	690	690	690	690		
		Thickness	11	11	11	11	11	12	12	12	12	12		
		Sides	11	11	11	11	11	11	11	11	11	11		
		Stiffeners	None	=	=	=	=	=	178 x 76 x 10 BA	=	=	=	=	
		Brackets, Stays	None	=	=	=	=	=	1 end; 1 side	12.; 4 s.	12.; 2 s.	12.; 5 s.	12.; 2 s.	
HATCH BEAMS	{	Number	3	10	4	8	3	3	10	4	8	3		
		Spacing	1370	1320	1590	1450	1450	1200	1320	1590	1450	1450	1450	
		Scantling and Sketch							Same as Freeboard Deck					
		Bearing Surface	76	76	76	76	76	76	76	76	76	76	76	
FORE AND AFTERS	{	Number	3	10	4	8	3	3	10	4	8	3		
		Spacing	1370	1320	1590	1450	1450	1200	1320	1590	1450	1450	1450	
		Unsupported Lengths	76	76	76	76	76	76	76	76	76	76	76	
		Scantling* and Sketch	None						None					
HATCH COVERS	{	Material	White Pine	White Pine	White Pine	White Pine	White Pine	White Pine	White Pine	White Pine	White Pine	White Pine		
		Thickness	76	76	76	76	76	76	76	76	76	76	76	
		How fitted	fore	aft	fore	aft	fore	aft	fore	aft	fore	aft	fore	
		Bearing Surface	87	87	87	87	87	87	87	87	87	87	87	
Spacing of Cleats														
Number of Tarpaulins														
*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 fiddle, funnel and ventilator coamings: — The 3 fiddle openings (1 fore of funnel = 2.42 x 1.06 and 2 aft of funnel = 5.70 x 1.02 and 1.23 x 1.02) with strong steel covers permanently attached. 4 boiler room ventilators of 1.02 x 1.10 x 9 mm. Engine room skylight of steel with 6 steel covers (permanently attached) and 24 lights with substantial glass. 6 ventilators of 0.60 x 0.90 x 9 mm.

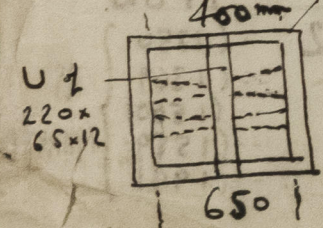
Particulars of Flush (Bulkhead) Scuttles: — 12 cargo storage flush scuttles on freeboard deck of 1130 x 750 x 75 mm and 1 ditto of 1700 x 780 x 75 mm. Tonnage hatch on side deck = 4.34 x 1.54 x 269 mm. Hatch on boat deck and corresponding on freeboard deck = 4.78 x 4.80 m.

Particulars of Companionways: — All protected by superstructure deck or inside deck superstructures.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks: — 10 fold ventilators and samson ports of 7.48 x 0.59 m x 11-9-7 mm coamings door.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks: — All air and sounding pipes fitted with bronze screwed flush covers. Forecastle and poop decks have goosenecks. door.

Particulars of Gangway Cargo and Coaling Ports: — One oil bunkering port at each side, leading to a small all closed fuel inlet room on freeboard deck. Sides openings closed with strong steel W.T. doors. These rooms are forward of No. 108 frame.



"HABANA."

Particulars of Scuppers and Sanitary Discharge Pipes — 4 scuppers of 100 mm foreward. Sanitary discharge pipes: — 1 each side of 'castle'; 12 amidships: — 7 portside, 5 starboard; 2 aft portside. All shell holes above freeboard deck. All fitted with storm valves.

Particulars of Side Scuttles: — All are above the freeboard deck and are fitted with inside deadlights permanently attached.

Particulars of Guard Rails: — Guard rails outside of central deck house and across the masts; 4 rails, stanchions 2.7 m apart. 176 x 62 75 x 60 x 7 178 x 9 BP - 1.65 m apart.

Particulars of Gangways, Lifelines, etc.: — None

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	2.096 m	2.44	60 x 30 mm	2	3600 mm ²	3600 mm ²
Forward Well	—	—	—	—	—	—
State position of each freeing port (F. and A. position and height above deck edge) After Well: 100 mm Forward Well: —						
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: Hinged plate shutters.						
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	6.5	6.5	120 x 80 x 11	823 / 900	None	None	—	2.44
Raised Quarter Deck Bulkhead	—	—	—	—	—	—	—	—
Bridge, After Bulkhead	6.5	6.5	"	"	"	1.20 x 900	600	"
Bridge, Forward Bulkhead	6.5	6.5	"	"	"	None	—	"
Forecastle Bulkhead	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—
Deckhouses on Flush Deck Ships	—	—	—	—	—	—	—	—
Particulars of Closing Appliances (state if capable of being manipulated from both sides).								
Poop Bulkhead	None No opening							
Raised Quarter Deck Bulkhead	—							
Bridge, After Bulkhead	2 doors - wood planks in L of 65 x 65 x 7 - 2nd class							
Bridge, Forward Bulkhead	None							
Forecastle Bulkhead	None							
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	—							
Deckhouses on Flush Deck Ships	—							

