

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Poop, Bridge & Deck

(Type of Superstructures.)

Port of Survey Bulbao

Date of Survey 1<sup>st</sup> + 2<sup>nd</sup> Dec 1932

Name of Surveyor

Particulars of Classification + 100 A.1.

Ship's Name <b>S.S. GASTELU</b>	Nationality and Port of Registry <u>Spanish</u> <u>San Sebastian</u>	Official Number <u>3272</u>	Gross Tonnage <u>1921/8</u>	Date of Build <u>1921/8</u>
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Moulded Dimensions: Length 100.826 m Breadth 14.554 m Depth 7.823 m

Moulded displacement at moulded draught = 85 per cent. of moulded depth 7760 m<sup>3</sup> tons

Coefficient of fineness for use with Tables .795

<b>Depth for Freeboard (D)</b> Moulded depth ... .. Stringer plate ... .. Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ Depth for Freeboard (D) = <u>7.834</u>	<b>Depth correction</b> (a) Where D is greater than Table depth (D - Table depth) R = <u>+ 236 m</u> (b) Where D is less than Table depth (if allowed) (Table depth - D) R = If restricted by superstructures	<b>Round of Beam correction</b> Moulded Breadth (B) Standard Round of Beam = $\frac{B \times 12}{50} =$ Ship's Round of Beam = Difference Restricted to Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) =$ <u>- 27 m</u>
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## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>i</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..					
" overhang ... ..					
R.Q.D. enclosed ... ..					
" overhang ... ..					
Bridge enclosed ... ..					
" overhang aft ... ..					
" overhang forward ... ..					
Fore enclosed ... ..					
" overhang ... ..					
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ... ..					
" forward ... ..					
Total ... ..					

Standard Height of Superstructure

" " R.Q.D. 950 m

Deduction for complete superstructure

Percentage covered  $\frac{S}{L} =$

" "  $\frac{S_1}{L} =$

" "  $\frac{E}{L} =$  48.40 %

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

Percentage from Table, Line B. TIMBER. 68.25 %  
(corrected for absence of forecastle (if required)) ✓

Interpolation for bridge less than 2L (if required) ✓

Deduction = 950 × .6825 = - 648 m

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft =	Mean standard sheer aft =
A.P. ... ..		1					1				
$\frac{1}{4}L$ from A.P. ... ..		4					4				
$\frac{2}{4}L$ " ... ..		2					2				
Amidships ... ..		4					4				
$\frac{3}{4}L$ from F.P. ... ..		2					2				
$\frac{1}{4}L$ " ... ..		4					4				
F.P. ... ..		1					1				
Total ... ..											

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$  - 72 m

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 = 7.834 Ft.  
Summer freeboard = 924  
Moulded draught (d) = 6.910

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{48} = \frac{6.910}{48} = 144 \text{ m} = 5.67$   
Addition for Winter North Atlantic Freeboard (if required) =  $\frac{d}{36} = \frac{6.910}{36} = 192 \text{ m} = 7.56$

Deduction for Fresh Water.

Displacement in salt water at summer load water line  $\Delta = 8258$  TONNEAUX  
Tonnage per cm immersion at summer load water line  $T = 13.0$   
Deduction =  $\frac{\Delta}{40 T} \text{ inches} = \frac{8258}{40 \times 13.0} = 159 \text{ m} = 6.26$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ... ..	<u>236</u>	<u>✓</u>
Deduction for superstructures ... ..	<u>✓</u>	<u>648</u>
Sheer correction ... ..	<u>✓</u>	<u>72</u>
Round of Beam correction ... ..	<u>✓</u>	<u>2</u>
Correction for Thickness of Deck amidships ... ..	<u>✓</u>	<u>✓</u>
Other corrections, scantlings, etc. ... ..	<u>✓</u>	<u>✓</u>
	<u>236</u>	<u>722</u>
Summer Freeboard =	<u>924</u>	<u>- 486</u>

TIMBER SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:— 36.38 = 924 m

TIMBER Tropical Fresh Water Line above Centre of Disc 23.80 = 604 m Tropical Fresh Water Freeboard ... 24.45 = 621 m

" Fresh Water Line " " 18.13 = 460 m Fresh Water " " 30.12 = 765 m

" Tropical Line " " 17.54 = 445 m Tropical " " 30.71 = 780 m

" Winter Line 4.31 = 109 m Winter " " 43.94 = 1116 m

" Winter North Atlantic Line 6.08 = 155 m Winter North Atlantic " " 54.33 = 1380 m

13 MAR 1936 SUMMER ABOVE " 11.87 = 3017 m