

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 Index. No. **27376**
 (For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship , Tanker					Port of Survey Bilbao	
having Poop, Bridge and Forecastle.					Date of Survey 22-23rd March 1937.	
(Type of Superstructures.)					Name of Surveyor F. de Beraza.	
Ship's Name CANTABRIA. EX ALFONSO PEREZ	Nationality and Port of Registry SANTANDER SPANISH	Official Number 5649	Gross Tonnage 1919-2	Date of Build 1919-2	Particulars of Classification 100 A.1.	
Moulded Dimensions: Length 124.94 M Breadth 16.46 M Depth 9.068 M.						
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12810 M³ — tons						
Coefficient of fineness for use with Tables .808						

Depth for Freeboard (D) Moulded depth 9.068 Stringer plate 12 m.m.012 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓ Depth for Freeboard (D) = 9.080	Depth correction (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ 8.33(9.080 - 8.331) 30 = 18.4 m.m. (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) = 16.46 Standard Round of Beam = $\frac{B \times 12}{50} =$ 329 m.m. Ship's Round of Beam = 343 m.m. Difference express = 14 m.m. Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ $\frac{14}{4} \times .4988 =$ -2 m.m.
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	13.335	13.335	2.438	✓	13.335
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	34.944	34.944	2.591	✓	34.944
" overhang aft					
" overhang forward					
F'cle enclosed	14.325	14.325	2.438	✓	14.325
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	62.634	62.634			62.634

Standard Height of Superstructure **2.290 M.**
 " " R.Q.D. **✓**
 Deduction for complete superstructure **1064 m.m.**
 Percentage covered $\frac{S}{L} =$ **50.12** ✓
 " " $\frac{S_1}{L} =$ **50.12** ✓
 " " $\frac{E}{L} =$ **50.12** ✓
 Percentage from Table, Line A. **✓**
 (corrected for absence of forecastle (if required))
 Percentage from Table, Line B. **36.12** ✓
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than 2L (if required) **✓**
 Deduction = **1064 × .3612 = - 385 m.m.**

SHEER CORRECTION.

Station	Standard Ordinate m.m.	S M	Product	Actual Ordinate m.m.	Effective Ordinate	S M	Product
A.P.	1295	1	1295	1804	1804	1	1804
$\frac{1}{2}$ L from A.P.	545	4	2300	823	823	4	3292
$\frac{2}{3}$ L "	144	2	288	206	206	2	412
Amidships	-	4	-	-	-	4	-
$\frac{2}{3}$ L from F.P.	288	2	576	351	351	2	702
$\frac{1}{2}$ L "	1151	4	4604	1405	1405	4	5620
F.P.	2590	1	2590	3581	3581	1	3581
Total			11653				15411

Mean actual sheer aft = **Express.**
 Mean standard sheer aft = **Express.**
 Mean actual sheer forward = **Express.**
 Mean standard sheer forward = **Express.**
 Length of enclosed superstructure forward of amidships = **> .1L**
 " " aft of " = **> .1L.**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ $\frac{3758}{18} \left(.75 - \frac{2506}{2506} \right) =$ **- 104 m.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 = **9.080**
 Summer freeboard = **1.468**
 Moulded draught (d) = **7.312**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d \text{ m.m.}}{48 \text{ inches}} =$ **152 m.m.**

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

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ **12,257 tons.**

Tons per inch immersion at summer load water line

$T =$ **46.0**

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

= **6.65**

= **169 m.m.**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.808 + .68}{1.36} = \frac{1.488}{1.36}$

	+	-
Depth Correction	184	-
Deduction for superstructures	-	385
Sheer correction	-	104
Round of Beam correction	-	2
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	184	491

Summer Freeboard = **1468 m.m.**

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

Tropical Fresh Water Line above Centre of Disc	321 = 12.64	Tropical Fresh Water Freeboard	1444 = 56.94
Fresh Water Line " "	169 = 6.65	Fresh Water " "	1599 = 62.96
Tropical Line " "	152 = 5.99	Tropical " "	1610 = 63.62
Winter Line below " "	152 = 5.99	Winter " "	1920 = 75.60
Winter North Atlantic Line " "	✓	Winter North Atlantic " "	✓

16 APR 1937

2m 10.36.

W471-0036

RECEIVED

18 MAY 1937

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.										
Description of Hatchway										
Dimensions of Hatchway										
COAMINGS	{	Height above Deck ...								
		Thickness ...								
		Sides ...								
		Ends ...								
		Stiffeners ...								
		Brackets, Stays ...								
HATCH BEAMS	{	Number								
		Spacing								
		Scantling and Sketch ...								
		Bearing Surface								
FORE AND AFTERS	{	Number								
		Spacing								
		Unsupported Lengths ...								
		Scantling* and Sketch ...								
		Bearing Surface								
HATCH COVERS	{	Material								
		Thickness								
		How fitted								
		Bearing Surface								
Spacing of Cleats										
Number of Tarpaulins										
<p>*Are wood fore and afters steel shod at all bearing surfaces ?</p> <p>Are battens and wedges efficient and in good condition ?</p> <p>Are tarpaulins in good condition and in accordance with rule requirements ?</p> <p>Are lashings provided in accordance with rule requirements ?</p>										

Particulars of fiddle, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

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

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

Particulars of Gangway Cargo and Coaling Ports :—



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