

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

Received

Index No.

Govt. Copy

Owners C11

Ship's Name MARQUES DE URQUIJO	Official Number	Nationality and Port of Registry Spanish Bilbao	Gross Tonnage 2567	Date of Build 1-1894	Port of Survey BILBAO
Moulded Dimensions: Length 90991 mm. Breadth 12149 mm. Depth 6481 mm. ✓ Freeboard Length 90991 mm.					Date of Survey During Reclassification
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) tons					Surveyor's Signature <i>Francisco</i>
Coefficient of fineness for use with Tables .80					Particulars of Classification +100A1 "Part Awning Deck with Freeboard"

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth ...	6481 ✓	(a) Where D is greater than Table depth (D-Table depth) R =	8.33 (6.494 - 6.066) 22.98 = 83	Moulded Breadth (B)	
Stringer plate ...	127 ✓	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	.428	Standard Round of Beam = $\frac{B \times 12}{50}$	203
Wood Sheathing on exposed deck		If restricted by superstructures		Ship's Round of Beam	241 mm.
$T \left(\frac{L-S}{L} \right) =$				Difference	38
Depth for Freeboard (D) =	64937			Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right)$	= $\frac{38}{4} \times 0 = \text{NIL}$

DEDUCTION FOR SUPERSTRUCTURES.

(..) See sketch over

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed110	.110	2.134		.110
" overhang ...	36.740			1194	
R.Q.D. enclosed ...	36.600		1.160	1417	30.748
" overhang ...					
Bridge enclosed ...	36.600	36.600	2.134		36.600
overhang aft	9.750				
Raised fore deck overhang forward	17.791	9.150	1.160	1194	5.520
Fore enclosed ...	8.641	8.641			8.641
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft					
" " forward					
Total ...	90.991	90.991			81.619

Standard Height of Superstructure	1979
" " R.Q.D.	1417
Deduction for complete superstructure	89
Percentage covered $\frac{S}{L} =$	100
" " $\frac{S_1}{L} =$	
" " $\frac{E}{L} =$	87.70
Percentage from Table, Line A. & B	87.33
(corrected for absence of fore-castle (if required))	
Percentage from Table, Line B.	
(corrected for absence of fore-castle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction =	895 x .8733 = 782.

See sketch over

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	1012	1	1012	919 ✓	940	1	940
$\frac{1}{2}$ L from A.P. ...	450	4	1800	469 ✓	387	4	1548
$\frac{2}{3}$ L " ...	111	2	222	74 ✓	54	2	108
Amidships ...	0	4	0	0	0	4	0
$\frac{2}{3}$ L from F.P. ...	223	2	446	240 ✓	254	2	508
$\frac{1}{2}$ L " ...	901	4	3604	949 ✓	813	4	3252
F.P. ...	2024	1	2024	1869 ✓	1918	1	1918
Total ...			9108				8274

Correction = $\frac{\text{Difference between sums of products}}{18}$

If limited on account of midship superstructure.

 $\left(.75 - \frac{S}{2L} \right) = \frac{834}{18} \left(.75 - .50 \right) = \text{NIL}$

If limited to maximum allowance of 1½ ins. per 100 ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 6494 Summer freeboard = 504 Moulded draught (d) = 5990 Keel allowance = Extreme draught = Deduction for Tropical freeboard and addition for = Winter freeboard = $\frac{d}{4}$ inches = 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 $T =$ Deduction = $\frac{\Delta}{40 T}$ inches Deadweight Tons At 5948 = 3728 = 15 Ap " 5795 = 3578 = 15 "	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.80 + .68}{1.36} = 1.48$ <table border="1"> <tr> <th></th><th>+</th><th>-</th></tr> <tr> <td>Depth Correction</td><td>82</td><td></td></tr> <tr> <td>Deduction for superstructures</td><td></td><td>782</td></tr> <tr> <td>Sheer correction</td><td>12</td><td></td></tr> <tr> <td>Round of Beam correction</td><td></td><td></td></tr> <tr> <td>Correction for Thickness of Deck amidships</td><td></td><td></td></tr> <tr> <td>Other corrections, scantlings, etc.</td><td></td><td></td></tr> <tr> <td></td><td>94</td><td>782</td></tr> <tr> <td>Summer Freeboard =</td><td></td><td>504</td></tr> </table>		+	-	Depth Correction	82		Deduction for superstructures		782	Sheer correction	12		Round of Beam correction			Correction for Thickness of Deck amidships			Other corrections, scantlings, etc.				94	782	Summer Freeboard =		504
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

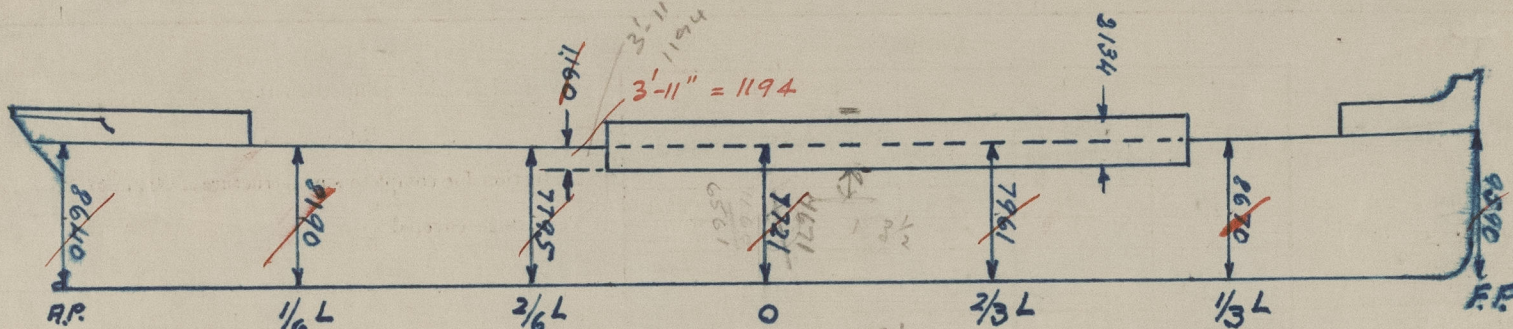
Tropical Fresh Water Line above Centre of Disc	...
Fresh Water Line	"
Tropical Line	"
Winter Line	below
Winter North Atlantic Line	"

Tropical Fresh Water Freeboard	...
Fresh Water	"
Tropical	"
Winter	"
Winter North Atlantic	"

Diagram of a ship's hull cross-section showing dimensions:

- Total height: 11460 mm
- Internal height: 6380 mm
- Curved section height: 8360 mm
- Internal width: 1870 mm
- External width: 110 mm

Poop Sketch



SHEER SKETCH

ORIGINAL SHEETS (1906) USED IN PRESENT COMPUTATION

Summer Freeboard amidship from centre of disc to top of Deck line, Steel Main Deck	=	397 mm.
Tropical Fresh Water Line above centre of disc.	255 mm. Tropical F.W. freeboard	= 142 mm.
Fresh Water Line	" " " " 128 mm. Fresh Water	" == 269 mm.
Tropical Line	" " " " 127 mm. Tropical	" = 270 mm.
Winter Line	below " " " 130 mm. Winter	" = 527 mm.
Winter North Atlantic	" " " " 178 mm. Winter North Atlantic	= 575 mm.

Profile plan.
Diagram of freeboard assigned by Spanish Authorities (Photostat copy).
Freeboard verification form.
Photostat copy of Lloyd's Freeboard old Certificate.

Ship displacement scale plan is not available here.

Fee & Ptas. 5.423 :

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)