

Computation with deck doubling for particulars see back of this sheet

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **28506**
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having _____

(Type of Superstructures.) _____

Port of Survey _____

Date of Survey **11.1.33**

Name of Surveyor _____

Particulars of Classification **+100 A1 Shelter Deck with Freeboard**

Ship's Name	Nationality and Port of Registry	Number	Gross Tonnage	Date of Build
"ALDECOA"	Spanish Bilbao		6089	1922

Moulded Dimensions: Length **357.62'** Breadth **49.74'** Depth **33.96'**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **11515** tons

Coefficient of fineness for use with Tables **.785**

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... 33.96	(a) Where D is greater than Table depth (D - Table depth) R = (34.00 - 23.84) 2.75 = + 27.94"	Moulded Breadth (B) 49.74'
Stringer plate04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = -	Standard Round of Beam = $\frac{B \times 12}{50} = \mathbf{11.94''}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \mathbf{-}$	If restricted by superstructures ✓	Ship's Round of Beam = 12.40''
Depth for Freeboard (D) = 34.00		Difference .46''
		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.46}{4} \times .2494 = \mathbf{-.03''}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	234.84	234.84	8'-0"	-	234.84	
„ overhang ...						
R.Q.D. enclosed ...						
„ overhang ...						
Bridge enclosed ...						
„ overhang aft ...						
„ overhang forward ...						
Fore enclosed ...	33.60	33.60	8'-0"	✓	33.60	
„ overhang ...						
Trunk aft ...						
„ forward ...						
Tonnage opening aft ...						
„ „ forward ...						
Total ...	268.44	268.44			268.44	

Standard Height of Superstructure **7.076**

„ „ R.Q.D. **.**

Deduction for complete superstructure **39.17''**

Percentage covered $\frac{S}{L} = \mathbf{75.06\%}$

„ „ $\frac{S_1}{L} = \mathbf{75.06\%}$

„ „ $\frac{E}{L} = \mathbf{75.06\%}$

Percentage from Table, Line A. **69.22%**
(corrected for absence of forecastle (if required))

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

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

Deduction = **39.17 x .6922 = - 27.11''**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	45.76	1		45.76	36.81	36.81	1		36.81	
$\frac{1}{2}$ L from A.P. ...	20.36	4		81.44	14.62	14.62	4		58.48	
$\frac{2}{3}$ L „ ...	5.03	2		10.06	3.65	3.65	2		7.30	
Amidships ...		4					4			
$\frac{2}{3}$ L from F.P. ...	10.07	2		20.14	7.00	7.00	2		14.00	
$\frac{1}{2}$ L „ ...	40.75	4		162.92	27.99	27.99	4		111.96	
F.P. ...	91.52	1		91.52	67.52	67.52	1		67.52	
Total ...				411.84					296.07	

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 = **> .10**

„ „ aft of „ = **> .10**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{115.77}{18} (.75 - .5753) = \mathbf{+ 2.41''}$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = 34.00</p> <p>Summer freeboard = 5.54</p> <p>Moulded draught (d) = 28.46</p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7.11'' = 181%</p> <p>Addition for Winter North Atlantic Freeboard (if required) = -</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta = \mathbf{11390}$</p> <p>Tons per inch immersion at summer load water line</p> <p>T = 38</p> <p>Deduction = $\frac{\Delta}{40 T}$ inches = 7.48''</p> <p>= 190%</p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient $\frac{66.45 + .785}{1.36} = \frac{1466}{1.36}$</p> <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td>27.94</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures ...</td> <td>-</td> <td>27.11</td> </tr> <tr> <td>Sheer correction ...</td> <td>2.41</td> <td>-</td> </tr> <tr> <td>Round of Beam correction ...</td> <td>-</td> <td>.03</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>30.35</td> <td>27.14</td> </tr> <tr> <td>Summer Freeboard = 66.45''</td> <td></td> <td></td> </tr> </table>		+	-	Depth Correction ...	27.94	-	Deduction for superstructures ...	-	27.11	Sheer correction ...	2.41	-	Round of Beam correction ...	-	.03	Correction for Thickness of Deck amidships ...	-	-	Other corrections, scantlings, etc. ...	-	-		30.35	27.14	Summer Freeboard = 66.45''		
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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	14.59' = 371%	Tropical Fresh Water Freeboard	51.86' = 128%
Fresh Water Line	7.48' = 190%	Fresh Water	58.97' = 149%
Tropical Line	7.11' = 181%	Tropical	59.34' = 150%
Winter Line below	7.11' = 181%	Winter	73.56' = 186%
Winter North Atlantic Line	✓	Winter North Atlantic	✓

23 JAN 1933

The scantlings of the ship are suitable for the freeboards assigned

RECEIVED

16 MAY 1933

Lloyd's Register Foundation

002659-002666-0282

Aldecoa
Reinforcement in forward well

B. strake A. strake Stronger plate

Doubling fitted port and star sides to A strake on forward well deck 22.5 metres in length ± 1.55 metres width. The doubling passes under the bridge front bulkhead for a length of 4.6 metres
The thickness of the doubling is 10.5 mm

