

Amended freeboards due to alterations in way of freeboard

Index. No. **13432**
(For London Office only).

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name Balmarino	Official Number 108628	Nationality and Port of Registry British	Gross Tonnage 1898 -11	Date of Build 1898 -11	Port of Survey Belfast
Moulded Dimensions: Length 161.75 Breadth 25.00 Depth 12.50					Date of Survey Feb. 1943
Moulded displacement at moulded draught = 85 per cent. of moulded depth 855 tons					Surveyor's Signature E. Griers
Coefficient of fineness for use with Tables .697					Particulars of Classification +100A1

Depth for Freeboard (D). Moulded depth ... 12.50 Stringer plate04 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓ Depth for Freeboard (D) = 12.54	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(12.54 - 10.78) \times 1.244 = +2.18$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ ✓ If restricted by superstructures ✓	Round of Beam correction. Moulded Breadth (B) 25' Standard Round of Beam = $\frac{B \times 12}{50} =$ 6.00 Ship's Round of Beam = 7.00 Difference 1.00 Restricted to Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.00}{4} \times \frac{2.166}{1} = -.05$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	14.50	14.50	5.0	-	14.50
„ overhang ...					
R.Q.D. enclosed	78.75	78.75	3.75	-	78.75
„ overhang ...					
Bridge enclosed...	7.00	7.00	6.5	-	7.00
„ overhang aft ...					
„ overhang forward					
F'cle enclosed <i>equivalent</i>	26.43	26.43	6.5	-	26.43
„ overhang07	.04			.04
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward					
Total ...	126.75	126.72			126.72

Standard Height of Superstructure **6.0'**
 „ „ R.Q.D. **3.411'**
 Deduction for complete superstructure **22.175'**
 Percentage covered $\frac{S}{L} =$ **78.35**
 „ „ $\frac{S_1}{L} =$ **78.34**
 „ „ $\frac{E}{L} =$ **78.34**
 Percentage from Table, Line A. **73.26**
 (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 = $22.175 \times .7326 = -16.24$

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	26.17	1	26.17	29.00	33.07	1	26.17
$\frac{1}{2}$ L from A.P. ...	11.65	4	46.60	7.95	12.02	4	46.60
$\frac{2}{3}$ L „ ...	2.88	2	5.76	1.97	3.64	2	5.76
Amidships ...	-	4	-	-	-	4	-
$\frac{1}{3}$ L from F.P. ...	5.76	2	11.52	5.12	5.12	2	10.24
„ ...	23.30	4	93.20	20.53	20.53	4	82.12
F.P. ...	52.35	1	52.35	51.00	51.00	1	51.00
Total ...			235.60				221.89

Mean actual sheer aft = $\frac{\text{Actual height of R.Q.D.} - \text{Standard}}{\text{Distance}}$ **3.750**
 Mean standard sheer aft = $\frac{3.411 - 3.39}{1} = 4.07$
 Mean actual sheer forward = **Deficient**
 Mean standard sheer forward = **Deficient**
 Length of enclosed superstructure forward of amidships = **✓**
 „ „ aft of „ = **Sheer Deficient**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{13.71}{18} \left(\frac{.75 - .3917}{.3583} \right) = +.27$
 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 = 16.29 Summer freeboard = 4.04 Moulded draught (d) = 12.25 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.06 = 3' Addition for Winter North Atlantic Freeboard (if required) = 5"	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 1029$ Tons per inch immersion at summer load water line $T = 7.88$ Deduction = $\frac{\Delta}{40T}$ inches = 3.26 = 3 1/4"	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.697 + .68}{1.36} = \frac{1.377}{1.36} =$ <table border="1"> <tr> <th></th><th>+</th><th>-</th></tr> <tr> <td>Depth Correction ...</td><td>2.18</td><td></td></tr> <tr> <td>Deduction for superstructures ...</td><td>-</td><td>16.24</td></tr> <tr> <td>Sheer correction ...</td><td>.27</td><td></td></tr> <tr> <td>Round of Beam correction ...</td><td>-</td><td>.05</td></tr> <tr> <td>Correction for Thickness of Deck amidships ...</td><td>-</td><td></td></tr> <tr> <td>Other corrections, scantlings, etc. ...</td><td>45.00</td><td></td></tr> <tr> <td></td><td>47.45</td><td>16.29</td></tr> </table> Summer Freeboard = 48.5'		+	-	Depth Correction ...	2.18		Deduction for superstructures ...	-	16.24	Sheer correction27		Round of Beam correction ...	-	.05	Correction for Thickness of Deck amidships ...	-		Other corrections, scantlings, etc. ...	45.00			47.45	16.29
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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 ...	4 3/4"	Tropical Fresh Water Freeboard ...	4'-0 1/2"
Fresh Water Line „ „ ...	3 1/4"	Fresh Water „ „ ...	3'-7 3/4"
Tropical Line „ „ ...	1 1/2"	Tropical „ „ ...	3'-9 1/4"
Winter Line below „ „ ...	3"	Winter „ „ ...	3'-11" (limited)
Winter North Atlantic Line „ „ ...	5"	Winter North Atlantic „ „ ...	4'-3 1/2"
			4'-5 1/2"