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Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name DOMINION MONARCH	Official Number 166828	Nationality and Port of Registry BRITISH SOUTHAMPTON	Gross Tonnage 27155	Date of Build 1939 I.M.	Port of Survey
Moulded Dimensions: Length 651.71 Breadth 84.50 Depth 48.50 <i>To centre of Rudder stock</i>					Date of Survey 8th Dec. '48
Moulded displacement at moulded draught = 85 per cent. of moulded depth 45240 tons					Surveyor's Signature <i>[Signature]</i>
Coefficient of fineness for use with Tables .697					Particulars of Classification +100A1 with freeboard

DEPTH FOR FREEBOARD (D). Moulded depth ... 48.50 Stringer plate5004 Sheathing on exposed deck 2 1/4" $T \left(\frac{L-S}{L} \right) = .19 \times .1373 = .03$ Depth for Freeboard (D) = 48.57	DEPTH CORRECTION. (a) Where D is greater than Table depth $(D - \text{Table depth}) R = (48.57 - 43.45) 3 = + 15.36"$ (b) Where D is less than Table depth (if allowed) (Table depth - D) R = 5.12 If restricted by superstructures <input checked="" type="checkbox"/>	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 84.50 Standard Round of Beam = $\frac{B \times 12}{50} = 20.28$ Ship's Round of Beam = 6.00 Difference 14.28 Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S}{L} \right) = \frac{14.28}{4} \times .1373 = +.49$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	562.25	562.25	8.00	✓	562.25
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	562.25	562.25			562.25

Standard Height of Superstructure **7.50'**
 " " R.Q.D. **✓**
 Deduction for complete superstructure **42.00**
 Percentage covered $\frac{S}{L} = \frac{S_1}{L} = \frac{E}{L} = 86.27$
 Percentage from Table, Line A. & B **83.07**
 (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 = **42.00 x .8307 = 34.89**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	75.17	1	✓	75.17	66.25	66.25	1	✓	66.25
1/8 L from A.P. ...	33.45	4	✓	133.80	30.70	30.70	4	✓	122.80
2/8 L " ...	8.27	2	✓	16.54	9.05	9.05	2	✓	18.10
Amidships ...	—	4	✓	—	—	—	4	✓	—
2/8 L from F.P. ...	16.54	2	✓	33.08	16.875	16.875	2	✓	33.75
1/8 L " ...	66.90	4	✓	267.60	58.95	58.95	4	✓	235.80
F.P. ...	150.34	1	✓	150.34	132.55	132.55	1	✓	132.55
Total ...				676.53					609.25

Mean actual sheer aft = **Deficient**
 Mean standard sheer aft = **Deficient**
 Mean actual sheer forward = **Deficient**
 Mean standard sheer forward = **Deficient**
 Length of enclosed superstructure forward of amidships = **Deficient**
 " " aft of " = **Deficient**
 Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{67.28}{18} \left(\frac{.75 - .4313}{.3187} \right) = +1.19"$
 If limited on account of midship superstructure. If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 48.54 Summer freeboard = 14.54 Moulded draught (d) = 34.00 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 8.50" = 8 1/2" Addition for Winter North Atlantic Freeboard (if required) =	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 36220$ Tons per inch immersion at summer load water line $T = 107.47$ Deduction = $\frac{\Delta}{40 T}$ inches = 8.42" = 8 1/2"	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>15.36</td> <td>—</td> </tr> <tr> <td>Deduction for superstructures</td> <td>—</td> <td>34.89</td> </tr> <tr> <td>Sheer correction</td> <td>1.19</td> <td>—</td> </tr> <tr> <td>Round of Beam correction</td> <td>.49</td> <td>—</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>—</td> <td>0.36</td> </tr> <tr> <td>Other corrections, scantlings, etc. corresponding to a summer moulded draught of 34.00'</td> <td>49.15</td> <td>—</td> </tr> <tr> <td></td> <td>66.19</td> <td>35.25</td> </tr> </table> Summer Freeboard = 174.50		+	-	Depth Correction	15.36	—	Deduction for superstructures	—	34.89	Sheer correction	1.19	—	Round of Beam correction	.49	—	Correction for Thickness of Deck amidships	—	0.36	Other corrections, scantlings, etc. corresponding to a summer moulded draught of 34.00'	49.15	—		66.19	35.25
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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 ... 17"	Tropical Fresh Water Freeboard ... 13 1/2"
Fresh Water Line " " ... 8 1/2"	Fresh Water " " ... 13 1/2"
Tropical Line " " ... 8 1/2"	Tropical " " ... 13 1/2"
Winter Line below " " ... 8 1/2"	Winter " " ... 15 1/2"
Winter North Atlantic Line " " ... —	Winter North Atlantic " " ... —