

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name Q.S.M.V. Dominion Monarch	Official Number 166828	Nationality and Port of Registry British Southampton	Gross Tonnage 27,155	Date of Build 1939	Port of Survey Newcastle on Tyne
Moulded Dimensions: Length 651.71 Breadth 84.5 Depth 48.5 to E. 58.				Date of Survey 5th January 1939	
Moulded displacement at moulded draught = 85 per cent. of moulded depth 45,240 tons				Surveyor's Signature A. E. Akerley	
Coefficient of fineness for use with Tables .699				Particulars of Classification +100 A1 <i>with a freeboard corresponding to a summer moulded draught of 34 feet.</i>	

Depth for Freeboard (D).
Moulded depth ... **48.5**
Stringer plate ... **.50**
Sheathing on exposed deck **2 1/4"**
 $T \left(\frac{L-S}{L} \right) = .19 \times 1247$
Depth for Freeboard (D) = **48.56**

Depth correction.
(a) Where D is greater than Table depth
(D - Table depth) R = **(48.56 - 43.45) 3 = +15.33"**
(b) Where D is less than Table depth (if allowed)
(Table depth - D) R = **5.11**
If restricted by superstructures

Round of Beam correction.
Moulded Breadth (B) **84.5**
Standard Round of Beam = $\frac{B \times 12}{50} = 20.28$
Ship's Round of Beam = **6**
Difference **14.28 DEFICIENT**
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{14.28^2}{4} \times 1.258 = +.45$

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 ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	567.75	567.75	9.0		567.75
" overhang ...	2.9	2.06			2.06
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	570.50	569.81			569.81

Standard Height of Superstructure **7.5**
" " R.Q.D. **✓**
Deduction for complete superstructure **42.00**
Percentage covered $\frac{S}{L} = 87.53$
" $\frac{S_1}{L} = 87.42$
" $\frac{E}{L} = 87.42$
Percentage from Table, Line A. **84.50**
(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 = $42 \times .845 = - 35.49$

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	66.25
1/4 L from A.P. ...	33.45	4	133.80	30.7	30.70	4	122.80	4	122.80
1/2 L " ...	8.27	2	16.54	9.05	9.05	2	18.10	2	18.10
Amidships ...		4				4			
3/4 L from F.P. ...	16.54	2	33.08	16.875	16.875	2	33.75	2	33.75
1/4 L " ...	66.90	4	267.60	58.95	58.95	4	235.80	4	235.80
F.P. ...	150.34	1	150.34	132.55	132.55	1	132.55	1	132.55
Total ...			676.53				609.25		609.25

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 = **Deficient**
" " aft of " = **Sheer.**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{67.28(75-4376)}{18} = +1.17$
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 = **8.5 = 8 1/2"**

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line **34 ft**
 $\Delta = 36220$

Tons per inch immersion at summer load water line

$T = 107.47$

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

= **8.42**
= **8 1/2"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{697 \times 68}{1.36} = 1.377$

Depth Correction ... **15.33**

Deduction for superstructures ... **35.49**

Sheer correction ... **1.17**

Round of Beam correction ... **4.45**

Correction for Thickness of Deck amidships

TO CORRESPOND WITH A SUMMER MOULDED DRAUGHT OF **34.0"**

Other corrections, scantlings, etc.

141.79

143.56

15.33

35.49

1.17

4.45

24

49.72

66.67 35.73 + 30.94

Summer Freeboard = **174.50**

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

Tropical Fresh Water Line above Centre of Disc ... **17"**
Fresh Water Line " " ... **8 1/2"**
Tropical Line " " ... **8 1/2"**
Winter Line below " " ... **8 1/2"**
Winter North Atlantic Line " " ... **8 1/2"**

Tropical Fresh Water Freeboard ... **13' 1 1/2"**
Fresh Water " " ... **13' 10"**
Tropical " " ... **13' 10"**
Winter " " ... **15' 3"**
Winter North Atlantic " " ... **15' 3"**

10 JAN 1939

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Trade of ship *Between London & New Zealand*

Names of sister ships *✓*

Builder's name and yard number *Swan Hunter & Wigham Richardson Ltd. No 1547*

Owners *Shaw Savill & Albion Co. Ltd.*

Fee *g With F.E.*

Dominion Monarch.



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Foundation