

Rpt. C.11 (Comp.).
Daghestan 36581

Basis computation for C.S.S. vessel with
Tonnage Opening Aft.
Lloyd's Register of Shipping.

Index. No. 36546
(For London Office only).

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name Daltonhall	Official Number	Nationality and Port of Registry British, West Hartlepool	Gross Tonnage	Date of Build 1941	Port of Survey Sunderland
Moulded Dimensions: Length 421'-1 1/2" Breadth 56'-2 1/2" Depth 29.0'					Date of Survey During construction
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12184 tons					Surveyor's Signature A.A. Moir
Coefficient of fineness for use with Tables 731					Particulars of Classification +100A1 with freeboard.

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 29.00	(a) Where D is greater than Table depth (D - Table depth) R = (29.03 - 28.03) x 3 = +2.85"	Moulded Breadth (B) 56.21'
Stringer plate ... 41"	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 95	Standard Round of Beam = $\frac{B \times 12}{50} =$ 13.49"
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓	If restricted by superstructures ✓	Ship's Round of Beam = 14.00"
Depth for Freeboard (D) = 29.03		Difference 51"
		Restricted to ✓
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{51}{4} \times .006 = \text{Nil}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	32.83	32.83	9.07'	✓	32.83
.. overhang ...	50	15			15
R.Q.D. enclosed ...					
.. overhang ...					
Bridge enclosed ...	380.42	380.42	9.07'	✓	380.42
.. overhang aft ...	1.62	1.96			1.96
.. overhang forward ...					
Forecastle enclosed ...					
.. overhang ...					
Trunk aft ...					
.. forward ...					
Tonnage opening aft ...	4.75	Diff. 1/2 2.83		✓	2.83
.. forward ...					
Total ...	441.12	418.24			418.24

Standard Height of Superstructure **7.5'**
R.Q.D. **42.00'**
Deduction for complete superstructure **42.00'**
Percentage covered $\frac{S}{L} = \frac{100.00}{110.00} = .909$
 $\frac{S_1}{L} = \frac{99.33}{110.00} = .903$
Percentage from Table, Line A. **99.18**
(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 .9918 = -41.66"**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.11	1	52.11	52.11	52.11	78.71	1	78.71	78.71
1/4 L from A.P. ...	23.19	4	92.76	23.19	23.19	35.03	4	140.12	140.12
1/2 L ..	5.73	2	11.46	5.73	5.73	8.66	2	17.32	17.32
Amidships ...	-	4	-	-	-	-	4	-	-
3/4 L from F.P. ...	11.46	2	22.92	11.46	11.46	15.83	2	30.66	30.66
1/4 L ..	46.38	4	185.52	46.38	46.38	62.01	4	248.04	248.04
F.P. ...	104.22	1	104.22	104.22	104.22	139.34	1	139.34	139.34
Total ...			468.99	+18.84				654.19	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{185.20 \times 25}{18} = -2.57"$
If limited on account of midship superstructure. **✓**
Mean actual sheer aft = **Excess**
Mean standard sheer aft = **Excess**
Mean actual sheer forward = **Excess**
Mean standard sheer forward = **Excess**
Length of enclosed superstructure forward of amidships = **✓**
.. .. aft of .. = **✓**

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Fresh Deck (if required)
Depth to Freeboard Deck = 29.03	Displacement in salt water at summer load water line	Correction for coefficient 731 + 68 = 1.411/1.36
Summer freeboard = 3.31	$\Delta =$	Depth Correction ... 2.85
Moulded draught (d) = 25.72	Tons per inch immersion at summer load water line	Deduction for superstructures ... 41.66
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.43 = 6 1/2"	T =	Sheer correction ... 2.57
Addition for Winter North Atlantic Freeboard (if required) =	Deduction = $\frac{\Delta}{40 T}$ inches = 6 3/4	Round of Beam correction ... -
		Correction for Thickness of Deck amidships ... -
		Other corrections, scantlings, etc. ... -
		2.85 44.23 -41.38
		Summer Freeboard = 39.70

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

Draught C.S.S. to T.O. 25.72	Tropical Fresh Water Line above Centre of Disc ... 13 1/4	Tropical Fresh Water Freeboard ... 2 2 1/2
increased draught 1.50	Fresh Water Line " " ... 6 3/4	Fresh Water " " ... 2 9'
Scantling draught 27.22	Tropical Line " " ... 6 1/2	Tropical " " ... 2'-9 1/4
	Winter Line below " " ... 6 1/2	Winter " " ... 3'-10 1/4
	Winter North Atlantic Line " " ... -	Winter North Atlantic " " ... -