

Rpt. C.11 (Comp. 34193.
British Power 35136.
British Dredging 35310.
Boardale 35369.
British Integrity

GLASGOW REPORT No 58971

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Index. No. 35435
(For London Office only).

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

OCT 22 1937

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "BROOMDALE"	Official Number 165594	Nationality and Port of Registry British London	Gross Tonnage 8334.22 <i>8562 per reg. Tons 143749</i>	Date of Build 1937	Port of Survey Glasgow
Moulded Dimensions: Length 465.08 Breadth 61.5 Depth 34.03					Date of Survey October 1937
Moulded displacement at moulded draught = 85 per cent. of moulded depth 18372 tons					Surveyor's Signature Norman Dobson
Coefficient of fineness for use with Tables .777					Particulars of Classification +100A1 Contemplated Carrying petroleum in Bulk

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth 34.03	(a) Where D is greater than Table depth (D-Table depth) R = (34.10 - 31.01) x 3 = +9.27	Moulded Breadth (B) 61.5
Stringer plate .8207	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ 14.76
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 14.44
Depth for Freeboard (D) = 34.10		Difference = .32
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.32^2}{4} \times .5807 = +.05$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	101.84	101.84	8'-0"	✓	101.84
.. overhang	3.50	1.75		✓	1.75
R.Q.D. enclosed					
.. overhang					
Bridge enclosed... ..	36.00	36.00	8'-0"	✓	36.00
.. overhang aft	3.00	2.25		✓	2.25
.. overhang forward	3.50	1.75		✓	1.75
Fore enclosed <i>Regis</i> ...	49.12	49.12	8'-0"	✓	49.12
.. overhang	4.56	2.28		✓	2.28
Trunk aft					
.. forward					
Tonnage opening aft ...					
.. forward					
Total	201.52	194.99			194.99

Standard Height of Superstructure	7.5'
" " R.Q.D.	
Deduction for complete superstructure	42'
Percentage covered $\frac{S}{L} =$	43.33
" " $\frac{S_1}{L} =$	41.93
" " $\frac{E}{L} =$	41.93
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. <i>Tanker</i>	32.93
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required)	
Deduction = 42 x .3293 = -13.83	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	56.51	1		56.51	51.00	51.00	1		51.00
$\frac{1}{4}$ L from A.P.	25.15	4		100.60	23.38	23.38	4		93.52
$\frac{3}{4}$ L "	6.22	2		12.44	5.88	5.88	2		11.76
Amidships		4					4		
$\frac{3}{4}$ L from F.P.	12.43	2		24.86	11.13	11.13	2		22.26
$\frac{1}{4}$ L "	50.29	4		201.16	44.88	44.88	4		179.52
F.P.	113.02	1		113.02	102.00	102.00	1		102.00
Total				508.59					460.06

Mean actual sheer aft =	<i>Deficient</i>
Mean standard sheer aft =	
Mean actual sheer forward =	<i>Deficient</i>
Mean standard sheer forward =	
Length of enclosed superstructure forward of amidships =	
" " aft of " =	<i>Tanker</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{48.53}{18} (.75 - .2166) = +1.44$
If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1½ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Fresh Deck (if required)	78.97
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.777 + .68}{1.36} = \frac{1.457}{1.36}$	84.60
Depth to Freeboard Deck = 34.10	$\Delta =$ 17375		
Summer freeboard = 6.79	Tons per inch immersion at summer load water line	Depth Correction 9.27	
Moulded draught (d) = 27.31	T = 58.67	Deduction for superstructures 13.83	
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40T}$ inches = 7.40	Sheer correction 1.44	
Winter freeboard = $\frac{d}{4}$ inches = 6.83 = 6¾	= 7½"	Round of Beam correction05	
Addition for Winter North Atlantic Freeboard (if required) = 6.83 + 4.65 = 11.48		Correction for Thickness of Deck amidships	
= 11½"		Other corrections, scantlings, etc.	
		10.76 13.83 - 3.07	
		Summer Freeboard = 81.53	

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

Tropical Fresh Water Line above Centre of Disc	14¼"	Tropical Fresh Water Freeboard	5'-7¼"
Fresh Water Line " "	7½"	Fresh Water " "	6'-2"
Tropical Line " "	6¾"	Tropical " "	6'-2¾"
Winter Line below " "	6¾"	Winter " "	7'-4¼"
Winter North Atlantic Line " "	11½"	Winter North Atlantic " "	7'-9"

26 OCT 1937

B

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.

BROOMDALE

Trade of ship Jaunker

Names of sister ships British Destiny, British Power, Boardale, British Integrity.

Builder's name and yard number Harland & Wolff Ltd No 973

Owners His Lord's Commissioners of the Admiralty

Fee £ 19 : 0 : 0



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