

Rpt. C.11 (Comp.).
British Character 36706

Newcastle-on-Tyne

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Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "BRITISH HARMONY"	Official Number 168214	Nationality and Port of Registry British. London.	Gross Tonnage 8453	Date of Build 1941.	Port of Survey Walker-on-Tyne
Moulded Dimensions: Length 463'-7 3/4" Breadth 61'-9" Depth 34'-0 1/2"					Date of Survey During Construction.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 18198 tons					Surveyor's Signature E.A. Dean.
Coefficient of fineness for use with Tables .769					Particulars of Classification +100A.1. Carrying Petroleum in bulk (Contemplated).

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 34'-0 1/2"	(a) Where D is greater than Table depth (D - Table depth) R = (34'-10" - 30'-9 1/2") x 3 = +9'-5 1/2"	Moulded Breadth (B) 61'-9"
Stringer plate72	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 3'-19"	Standard Round of Beam = $\frac{B \times 12}{50}$ = 14'-8 1/2"
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓	If restricted by superstructures ✓	Ship's Round of Beam = 1'-3"
Depth for Freeboard (D) = 34'-10"		Difference Excess +18"
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$ = .18 x 5659 = -03"

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed Equiv.	104'-12"	104'-12"	8'-0"	✓	104'-12"
" overhang See sketch	101'-7 1/2"	101'-7 1/2"			101'-7 1/2"
R.Q.D. enclosed					
" overhang	46'-6 1/2"	46'-6 1/2"	8'-0"	✓	46'-6 1/2"
Bridge enclosed Equiv.	44'-0"	46'-6 1/2"	8'-0"	✓	46'-6 1/2"
" overhang aft	2'-00"	1'-50"			1'-50"
" overhang forward					
Fore enclosed	49'-0"	49'-00"	8'-0"	✓	49'-00"
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	201'-7 1/2"	201'-29"			201'-29"

Standard Height of Superstructure **7'-5"**
" " R.Q.D. **✓**
Deduction for complete superstructure **42'-00"**
Percentage covered $\frac{S}{L} = \frac{43'-52"}{43'-02"} =$
" " $\frac{S_1}{L} = \frac{43'-41"}{42'-91"} =$
" " $\frac{E}{L} = \frac{43'-41"}{42'-91"} =$
Percentage from Table, Line **Tanker** **34'-41"** **33'-91"**
(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' x .3441 = -14'-45"** **14'-24"**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	56.37	1		56.37	38"	43.50	1		43.50
1/2 L from A.P. ...	25.08	4		100.32	22"	21.00	4		88.00
3/4 L " ...	6.20	2		12.40	6"	6.00	2		12.00
Amidships ...		4					4		
3/4 L from F.P. ...	12.40	2		24.80	12.25"	12.25	2		24.50
1/2 L " ...	50.165	4		200.66	50"	50.00	4		200.00
F.P. ...	112.73	1		112.73	113"	113.00	1		113.00
Total				507.28					481.00

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 = } **Tanker**
" " aft of " = }
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{26.28(-.75 - .2176)}{18} = +.78"$
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.	Deduction for Fresh Water.	TABULAR FREEBOARD
Depth to Freeboard Deck = 34'-10"	Displacement in salt water at summer load water line $\Delta =$ 17265	Corrected for Fresh Deck (if required) 769+68 = 1449/136
Summer freeboard = 6'-6 1/2"	Tons per inch immersion at summer load water line $T =$ 58.13	Correction for coefficient 1.36
Moulded draught (d) = 27'-4 1/2"	Deduction = $\frac{\Delta}{40T}$ inches = 7'-43"	Depth Correction ... 9.57 -24"
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6'-87" = 6'-3/4"	= 7'-1/2"	Deduction for superstructures ... 14'-45"
Addition for Winter North Atlantic Freeboard (if required) = 6'-87" + 4'-64" = 11'-51" = 11'-1/2"		Sheer correction ... 78
		Round of Beam correction ... -03
		Correction for Thickness of Deck amidships ... -27
		Other corrections, scantlings, etc. ... 3.92
		Summer Freeboard = 79'-6 1/2"

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

Tropical Fresh Water Line above Centre of Disc	... 14'-1/4"
Fresh Water Line	... 7'-1/2"
Tropical Line	... 6'-3/4"
Winter Line	below ... 6'-3/4"
Winter North Atlantic Line	... 11'-1/2"

Tropical Fresh Water Freeboard	... 5'-5 1/4"
Fresh Water	... 6'-0"
Tropical	... 6'-0 3/4"
Winter	... 7'-2 1/4"
Winter North Atlantic	... 7'-7"

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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.

Deck equid. bed.

$$\begin{array}{r} 101' - 9\frac{1}{2}" \\ 2' - 4" \\ \hline 104 - 1\frac{1}{2}" \end{array} + \frac{2}{3} \times 3' - 6")$$

$$104 - 1\frac{1}{2}"$$

Bridge

$$\begin{array}{r} 44' - 0" \\ 2' - 8" \\ \hline 46' - 8" \end{array} + \frac{2}{3} \times 4'$$

Trade of ship

Carrying Petroleum in bulk.

Names of sister ships

-

Builder's name and yard number

Swan, Hunter, Wigham, Richardson, Ltd. Walker-on-Syne - 1696

Owners

British Tanker Co Ltd.

Fee £ 19-0-0



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Foundation