

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER.~~)

No 32312

Ship's Name WELSH TRADER.	Official Number 166372	Nationality and Port of Registry BRITISH London	Gross Tonnage 4974 <i>5013 per 14/5/38</i>	Date of Build 1938 <i>21/2/38</i>	Port of Survey Sunderland
Moulded Dimensions: Length 415.875 Breadth 58.08 Depth 26.83					Date of Survey While Building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 11820 tons					Surveyor's Signature <i>W. B. Miller</i>
Coefficient of fineness for use with Tables .7514					Particulars of Classification +100A1. with freeboard <i>(class contemplated)</i>

Depth for Freeboard (D). Moulded depth ... 26.83 Stringer plate3803 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 26.86	Depth correction. (a) Where D is greater than Table depth (D-Table depth) R = <input checked="" type="checkbox"/> (b) Where D is less than Table depth (if allowed) (Table depth-D) R = 27.78 - 26.86 = .92 $(.92 \times .846) = .778$ If restricted by superstructures <input checked="" type="checkbox"/>	Round of Beam correction. Moulded Breadth (B) 58.08 Standard Round of Beam = $\frac{B \times 12}{50} = 13.94$ Ship's Round of Beam = 14.2 Difference = Deficient = 7.94 Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{7.94^2}{4} \times .0054 = +.01$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	36.75	36.75	8.92'		36.75
.. overhang46	.23			.23
R.Q.D. enclosed ...					
.. overhang ...					
Bridge enclosed...	374.125	374.125	8.92'		374.125
.. overhang aft46	.345			.345
.. overhang forward					
Fore enclosed ...					
.. overhang ...					
Trunk aft ...					
.. forward ...					
Tonnage opening aft ...	4.08	2.21 = 1/2 diff			2.21
.. forward					
Total ...	415.875	413.66			413.66

Standard Height of Superstructure	7.50'
.. R.Q.D.	<input checked="" type="checkbox"/>
Deduction for complete superstructure	42.00"
Percentage covered $\frac{S}{L} =$	100.00
.. $\frac{S_1}{L} =$	99.46
.. $\frac{E}{L} =$	99.46
Percentage from Table, Line A.	99.33
(corrected for absence of forecastle (if required))	
Percentage from Table, Line B.	<input checked="" type="checkbox"/>
(corrected for absence of forecastle (if required))	<input checked="" type="checkbox"/>
Interpolation for bridge less than 2L (if required)	<input checked="" type="checkbox"/>
Deduction =	42.00 x .9933 = 41.72"

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	51.59	1		51.59	78"	95.04	1		51.59
1/2 L from A.P. ...	22.96	4		91.84	34 2/3"	42.30	4		91.84
2/3 L " ...	5.67	2		11.34	8 2/3"	10.45	2		11.34
Amidships ...		4			0		4		
2/3 L from F.P. ...	11.35	2		22.70	8 2/3"	10.45	2		20.90
1/2 L " ...	45.91	4		183.64	34 2/3"	42.30	4		169.20
F.P. ...	103.18	1		103.18	78"	95.04	1		95.04
Total ...				464.29	+17.04				439.91

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{24.38}{18} \times .25 = +.34$

If limited on account of midship superstructure. ☒

If limited to maximum allowance of 1 1/2 ins. per 100 ft. ☒

Mean actual sheer aft = **Excess**
Mean standard sheer aft = **Excess**

Mean actual sheer forward = **Deficient**
Mean standard sheer forward = **Deficient**

Length of enclosed superstructure forward of amidships = **cs.s.**
.. aft of .. = **cs.s.**

Actual Superstructure Height = 8.92'
Standard " = 7.50'
Diff. = 1.42'
.. 17.04'

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Et.
Depth to Freeboard Deck = **26.86**
Summer freeboard = **3.04**
Moulded draught (d) = **23.82**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **5.96 = 6"**

Addition for Winter North Atlantic Freeboard (if required) = ☒

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 12486$
Tons per inch immersion at summer load water line

$T = 49.50$
Deduction = $\frac{\Delta}{40T}$ inches
= **6.31 = 6 1/4"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{751+.68}{1.36} \frac{1.431}{1.36}$

Depth Correction ... **2.52**
Deduction for superstructures ... **41.72**
Sheer correction ... **.34**
Round of Beam correction ... **.01**
Correction for Thickness of Deck amidships ...
Other corrections, scantlings, etc. ...

76.48
80.48
81.8
82.38
83.95
84.29
Summer Freeboard = **36.58**

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

Tropical Fresh Water Line above Centre of Disc ... **12 1/4"**
Fresh Water Line " " ... **6 1/4"**
Tropical Line " " ... **6"**
Winter Line below " " ... **6"**
Winter North Atlantic Line " " ... ☒

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

B.

Welsh Trader

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.

Actual displacement at actual draft 24'0" = 12486 tons.
Tons Per Inch = 49.5.

Trade of ship

Names of sister ships

Builder's name and yard number

Messrs J. L. Thompson & Sons Ltd

Nº 584

Owners

Traders Navigation Co. Ltd.

Fee £

15

Will be charged on completion



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Foundation