

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name TUG "ENGLISHMAN"	Official Number 165680	Nationality and Port of Registry British Hull	Gross Tonnage 486.55	Date of Build 1937	Port of Survey Hull
Moulded Dimensions: Length 135'-0" Breadth 30'-0" Depth 16'-0"					Date of Survey While Building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 887 tons					Surveyor's Signature J. Macleod
Coefficient of fineness for use with Tables .564 (.68 lowest in tables)					Particulars of Classification +100A.1 "Not Towing Service" (contemplated) ✓

Depth for Freeboard (D). Moulded depth ... 16.00 Stringer plate5004 Sheathing on exposed deck (5" x 3" teak deck) $T \left(\frac{L-S}{L} \right) = \frac{5 \times 92.58}{135.0} = .17$ Depth for Freeboard (D) = 16.21	Depth correction. (a) Where D is greater than Table depth (D - Table depth) R = (16.21 - 9.00) 1.038 = +7.48 (b) Where D is less than Table depth (if allowed) (Table depth - D) R = 7.21 If restricted by superstructures	Round of Beam correction. Moulded Breadth (B) 30.0' Standard Round of Beam = $\frac{B \times 12}{50} = 7.20"$ Ship's Round of Beam = 9" Difference excess = 1.80" Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S}{L} \right) = \frac{1.8}{4} \times .8148 = .37$
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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 ...			<i>Actual</i>		
Bridge enclosed ...			3.25		
" overhang aft ...					
" overhang forward ...			<i>VIRTUAL</i>		
Fore enclosed ...	25.00	25.00	3.08	3.08/6.00	12.83 ✓
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	25.00	25.00			12.83 ✓

Standard Height of Superstructure **6.00'** ✓

" " R.Q.D. **19.50"** ✓

Deduction for complete superstructure **18.52** ✓

Percentage covered $\frac{S}{L} = 18.52$ ✓

" " $\frac{S_1}{L} = 18.52$ ✓

" " $\frac{E}{L} = 9.50$ ✓

Percentage from Table, Line A. **4.75** ✓

(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 = **19.50 x .0475 = .93** ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	23.50	1		23.50	45"	45.00	1		45.00
$\frac{1}{4}$ L from A.P. ...	10.46	4		41.84	24	24.00	4		96.00
$\frac{2}{4}$ L " ...	2.585	2		5.17	8½	8.50	2		17.00
Amidships ...	-	4		-	0	-	4		-
$\frac{3}{4}$ L from F.P. ...	5.17	2		10.34	5	5.00	2		10.00
$\frac{1}{4}$ L " ...	20.915	4		83.66	24	24.00	4		96.00
F.P. ...	47.00	1		47.00	57"	57.00	1		57.00
Total ...			✓	211.51					321.00 ✓

Mean actual sheer aft = **Excess** ✓

Mean standard sheer aft

Mean actual sheer forward = **Excess** ✓

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = **hil** ✓

" " aft of " = **hil** ✓

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{109.49}{18} \left(\frac{.75 - .0926}{2 \times 135} \right) = 4.00$ ✓

If limited on account of midship superstructure. **No allowance** ✓

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

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to **Raised** Deck = **16.29** Ft.
 Summer freeboard = **1.73**
 Moulded draught (d) = **14.56** ✓

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **3.64 = 3¾** ✓

Addition for Winter North Atlantic Freeboard (if required) = **5¾** ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 980$
 Tons per inch immersion at summer load water line
 $T = 7.80$
 Deduction = $\frac{\Delta}{T}$ inches = **3.14 = 3¼** ✓

CORRECTED FOR SUPERSTRUCTURES LESS THAN .1L
TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-	
Depth Correction ...	7.48		
Deduction for superstructures93	
Sheer correction ...			
Round of Beam correction37	
Correction for Thickness of Deck amidships96		
Other corrections, scantlings, etc. ...			
	8.44	1.30	+7.14 ✓
Summer Freeboard =			20.84 ✓

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

Tropical Fresh Water Line above Centre of Disc ...	7"	Tropical Fresh Water Freeboard ...
Fresh Water Line " " ...	3¼"	Fresh Water " " ...
Tropical Line " " ...	3¾"	Tropical " " ...
Winter Line below " " ...	3¾"	Winter " " ...
Winter North Atlantic Line " " ...	5¾"	Winter North Atlantic " " ...

28 SEP 1937

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 For Towing Services

Names of sister ships ✓

Builder's name and yard number Wmss Cochrane & Sons Ltd. Selby, Yard no 1184

Owners United Towing Co Ltd

Fee £ To be charged with First Entry. ✓



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Foundation

Aug. Englishman.