

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "MANCHESTER PROGRESS"	Official Number 147432	Nationality and Port of Registry BRITISH MANCHESTER	Gross Tonnage 5620	Date of Build 1938	Port of Survey Glasgow
Moulded Dimensions: Length 428.0 Breadth 56.67 Depth 29.10" To 2nd DK.					Date of Survey while building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12410 tons					Surveyor's Signature R. Dunsmuir
Coefficient of fineness for use with Tables .706					Particulars of Classification + 100 A1 WITH FREEBOARD (CONTEMPLATED)

Depth for Freeboard (D). Moulded depth ... 29.83 Stringer plate03 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \text{NIL}$ Depth for Freeboard (D) = 29.86	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(29.8 - 28.53) 3 = +3.99"$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ If restricted by superstructures	Round of Beam correction. Moulded Breadth (B) 56.67 Standard Round of Beam = $\frac{B \times 12}{50} = 13.60$ Ship's Round of Beam = 13.5 Difference .10 deficient Restricted to Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.10}{4} (.0058) = \text{NIL}$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	34.5	34.50	8'-3"		34.50
" overhang25	.12			.12
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	388.1	388.10	8'-3"		388.10
" overhang aft25	.19			.19
" overhang forward ...					
Fore enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...		1/2 DIFF.			
Tonnage opening aft ...	4.9	2.54	8'-3"		2.54
" " forward ...					
Total ...	428.00	425.45			425.45

Standard Height of Superstructure	7.5'
" " R.Q.D.	
Deduction for complete superstructure	42.00"
Percentage covered $\frac{S}{L} =$	100.00
" " $\frac{S_1}{L} =$	99.42
" " $\frac{E}{L} =$	99.42
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	99.28
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required)	
Deduction = $42 \times .9928 =$	-41.70"

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.80	1		52.80	54.0	63.00	1		63.00
1/2 L from A.P. ...	23.495	4		93.98	23.5	28.03	4		112.12
2/3 L " ...	5.81	2		11.62	5.12	6.93	2		13.86
Amidships ...		4			0		4		
2/3 L from F.P. ...	11.62	2		23.24	11.25	12.98	2		25.96
1/2 L " ...	46.99	4		187.96	48.0	52.51	4		210.04
F.P. ...	105.60	1		105.60	109.0	118.00	1		118.00
Total ...				475.20	49				542.98

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 =	L
" " aft of " =	L

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{67.78}{18} (.25) = - .94"$

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.

Depth to Freeboard Deck = **29.86**
Summer freeboard = **3.60**
Moulded draught (d) = **26.26**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **6.56 = 6 1/2"**
Addition for Winter North Atlantic Freeboard (if required) = **✓**

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 13032$
Tons per inch immersion at summer load water line
 $T = 47.66$

Deduction = $\frac{\Delta}{40T}$ inches= $\frac{13032}{40 \times 47.66} = 6.84 = 6 3/4"$

Full DR Displacement T.P.I.

26-1 3/4 12858 47.6

28-1 3/4 14016 48.3

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.706 + .68}{1.36} = \frac{1.386}{1.36}$

	+	-
Depth Correction ...	3.99	
Deduction for superstructures ...		41.70
Sheer correction94
Round of Beam correction ...		
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...		
	3.99	42.64

Summer Freeboard = **43.16**

SUMMER FREEBOARD amidships from Centre of

Disc to top of Deck Line, Wood, Steel, Deck: -

Tropical Fresh Water Line above Centre of Disc ... **13 1/4"**Fresh Water Line " " ... **6 3/4"**Tropical Line " " ... **6 1/2"**Winter Line below " " ... **6 1/2"**Winter North Atlantic Line " " ... **✓**

Tropical Fresh Water Freeboard ...

Fresh Water " ...

Tropical " ...

Winter " ...

Winter North Atlantic " ...

29 AUG 1938

Manchester Progress

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 International Trade

Names of sister ships "MANCHESTER CITY" & MANCHESTER PORT.

Builder's name and yard number Blythwood Shipbuilding Co. Ltd. No. 51

Owners Manchester Liners Ltd.

Est. Fee £ 16 : 0 : 0

Approved Plans of midship section, Profile & Becks, & Hatch Webs are forwarded for reference. Preliminary freeboard assigned.



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Foundation