

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. 349
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Plated Deck with Lonnage opening

(Type of Superstructures.)

Port of Survey _____

Date of Survey 17-8-35

Name of Surveyor _____

Particulars of Classification 100 A1 with freeboard (contemplated)

Ship's Name Wm McKersgill & Sons
Proposals.

Nationality and Port of Registry _____

Official Number _____

Gross Tonnage _____

Date of Build _____

Moulded Dimensions: Length 425.0 Breadth 55.83 Depth 28.34

Moulded displacement at moulded draught = 85 per cent. of moulded depth 12055 tons

Coefficient of fineness for use with Tables .438

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>28.34</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(28.41-28.33) 3 = + 0.24</u>	Moulded Breadth (B) Standard Round of Beam = $\frac{B \times 12}{50} = \frac{13.40}{50} = 13.50$
Stringer plate <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Ship's Round of Beam = <u>13.50</u>
Heating on exposed deck $T \left(\frac{L-S}{L} \right) =$		Difference = <u>.10</u>
Depth for Freeboard (D) = <u>28.41</u>	If restricted by superstructures	Restricted to Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.10}{4} \times .0074 = \text{Nil.}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>33.25</u>	<u>33.25</u>	<u>8'-9"</u>	<u>1</u>	<u>33.25</u>	Standard Height of Superstructure <u>7.50</u>
" overhang	<u>.84</u>	<u>.43</u>			<u>.43</u>	" " R.Q.D. <u>1</u>
Q.D. enclosed						Deduction for complete superstructure <u>42.00</u>
" overhang						Percentage covered $\frac{S}{L} = \frac{100.0}{100.0}$
Bridge enclosed... ..	<u>385.00</u>	<u>385.00</u>	<u>8'-9"</u>	<u>1</u>	<u>385.00</u>	" " $\frac{S_1}{L} = 99.26$
" overhang aft	<u>.88</u>	<u>.66</u>			<u>.66</u>	" " $\frac{E}{L} = 99.26$
" overhang forward						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Forecastle enclosed						Percentage from Table, Line B. <u>99.09</u> (corrected for absence of forecastle (if required))
" overhang						Interpolation for bridge less than .2L (if required)
Trunk aft						Deduction = <u>42.00</u> x <u>.9909</u> = <u>- 41.61</u>
" forward						
Tonnage opening aft	<u>5.00</u>	<u>2.44</u>	<u>5'-6" x 19'-4"</u>		<u>2.44</u>	
" " forward						
Total	<u>425.00</u>	<u>421.81</u>			<u>421.81</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	
... ..	<u>52.50</u>	1		<u>48.00</u>	<u>63.00</u>	1	<u>63.00</u>	Mean actual sheer aft = <u>Excess</u> Mean standard sheer aft = <u>1'-3"</u>
from A.P.		4		<u>21.50</u>	<u>28.04</u>	4	<u>112.16</u>	Mean actual sheer forward = <u>Excess</u> Mean standard sheer forward = <u>Excess</u>
"		2		<u>8.25</u>	<u>6.93</u>	2	<u>13.86</u>	Length of enclosed superstructure forward of amidships = <u>65.5</u> aft of " = <u>17.8</u>
amidships		4				4		
from F.P.		2		<u>10.50</u>	<u>12.21</u>	2	<u>24.42</u>	
"		4		<u>43.00</u>	<u>49.39</u>	4	<u>197.56</u>	
... ..	<u>105.00</u>	1		<u>96.00</u>	<u>111.00</u>	1	<u>111.00</u>	
Total			<u>442.50</u>	<u>415</u>			<u>522.00</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{49.50}{18} \times (.75 - .50) = - .69$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Depth to Freeboard Deck = <u>28.41</u>	Displacement in salt water at summer load water line	Correction for coefficient <u>.438 + .68</u> <u>1.36</u>
Summer freeboard = <u>3.39</u>	$\Delta =$	Depth Correction <u>0.24</u>
Moulded draught (d) = <u>25.02</u>	Tons per inch immersion at summer load water line	Deduction for superstructures <u>41.61</u>
Tropical freeboard and addition for	T =	Sheer correction <u>.69</u>
Freeboard = $\frac{d}{4}$ inches = <u>6.26</u> = <u>6'-4"</u>	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction <u>1</u>
Winter North Atlantic Freeboard (if)		Correction for Thickness of Deck amidships <u>1</u>
		Other corrections, scantlings, etc. <u>1</u>
		<u>0.24</u> <u>42.30</u> <u>- 42.06</u>
		Summer Freeboard = <u>40.64</u>

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

Tropical Fresh Water Line above Centre of Disc	<u>12'-2"</u>	Tropical Fresh Water Freeboard	<u>2'-4'-4"</u>
Fresh Water Line " "	<u>6'-4"</u>	Fresh Water " "	<u>2'-10'-2"</u>
Tropical Line " "	<u>6'-4"</u>	Tropical " "	<u>2'-10'-2"</u>
Winter Line below " "	<u>6'-4"</u>	Winter " "	<u>3'-11"</u>
Winter North Atlantic Line " "	<u>6'-4"</u>	Winter North Atlantic " "	<u>3'-11"</u>