

6 JUL 1946

Index. No. 29375
(For London Office only).

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name M.S. "STORM"	Official Number 144927	Nationality and Port of Registry BRITISH LYTTELTON N.Z.	Gross Tonnage 733.21	Date of Build 1920.	Port of Survey Dunedin, N.Z.
Moulded Dimensions: Length 79.2 Breadth 29.25 Depth 13.52					Date of Survey 2nd. February 1946.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1270 tons					Surveyor's Signature Ed. W. Martin
Coefficient of fineness for use with Tables .736					Particulars of Classification +100 A1

Depth for Freeboard (D). 13.52 Moulded depth ... 13.52 Stringer plate 4.4 ... 10.3 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 13.56	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(13.56 - 11.97) 1.382 = +2.20$ (b) Where D is less than Table depth (if allowed) (Table depth - D) R = If restricted by superstructures <input checked="" type="checkbox"/>	Round of Beam correction. 25 Moulded Breadth (B) 29.25 Standard Round of Beam = $\frac{B \times 12}{50} =$ 7.02 Ship's Round of Beam = 7.25 Difference Ext. 2.23 Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.48 \times .20}{4} = -.02$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure 6.00
" overhang ...						" " R.Q.D. 3.531
R.Q.D. enclosed ...	110.50	110.50	3.5	3.5/3.531	109.52	Deduction for complete superstructure 23.86
" overhang ...	3.6					Percentage covered $\frac{S}{L} =$ 81.14
Bridge enclosed ...	11.12	11.12	7.5	<input checked="" type="checkbox"/>	11.12	" " $\frac{S_1}{L} =$ 80.00
" overhang aft ...	11.12					" " $\frac{E}{L} =$ 79.43
" overhang forward ...	19.99					Percentage from Table, Line A.
Fore enclosed } equiv. 22.0	19.99	19.99	7.5	<input checked="" type="checkbox"/>	19.99	(corrected for absence of forecastle (if required))
" overhang ...	2.06	2.06			2.06	Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required) <input checked="" type="checkbox"/>
Tonnage opening aft ...						Deduction = 23.86 x .746 = 17.87
" forward ...	145.74					
Total ...	147.08	143.67			142.69	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	27.96	1	27.96	47.0	48.00	1	48.00			Mean actual sheer aft =
$\frac{1}{4}$ L from A.P. ...	12.44	4	49.76	20.0	20.00	4	80.00			Mean standard sheer aft =
$\frac{2}{4}$ L " ...	3.075	2	6.15	3.0	4.20	2	8.40			Mean actual sheer forward =
Amidships ...	-	4	-	-	-	4	-			Mean standard sheer forward =
$\frac{3}{4}$ L from F.P. ...	6.15	2	12.30	9.5	6.70	2	13.40			Length of enclosed superstructure forward of amidships =
$\frac{1}{4}$ L " ...	24.88	4	99.52	33.0	33.00	4	132.00			" " aft of " =
F.P. ...	55.92	1	55.92	71.75	76.00	1	76.00			
Total ...			251.61				357.80			

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{106.19}{18} \left(\frac{.75 - .4057}{.3443} \right) = -2.03$

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. (R.Q.) Depth to Freeboard Deck = 17.06 Summer freeboard = 3.73 Moulded draught (d) = 13.33 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.33 = 3 1/4" Addition for Winter North Atlantic Freeboard (if required) = 3 1/4" + 2" = 5 1/4"	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 1500 Tons per inch immersion at summer load water line $T =$ 10.60 Deduction = $\frac{\Delta}{40T}$ inches = 3.54 = 3 1/2"	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.736 + .08}{1.36} \times \frac{1.416}{1.36}$ Depth Correction ... 2.20 Deduction for superstructures ... 17.87 Sheer correction ... 2.03 Round of Beam correction02 Correction for Thickness of Deck amidships 42.00 Other corrections, scantlings, etc. ... 44.20 19.92 + 24.28 Summer Freeboard = 44.83
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc	108 1/4" (limited)	Tropical Fresh Water Freeboard	3' 8 3/4" 1137 mm
Fresh Water Line	89 1/4" (limited)	Fresh Water	3' 5 1/4" 1048 mm
Tropical Line	19 1/4" (limited)	Tropical	3' 8" (limited) 1118 mm
Winter Line below	83 1/4"	Winter	4' 0" 1220 mm
Winter North Atlantic Line	133 1/4"	Winter North Atlantic	4' 2" 1270 mm

M/S. STORM.

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.

Builder's Displacement

Scale gives:-

at draft 13'-0 1/4" = 476
= 928 Tons, Tons per inch = 10.5

Present freeboard, S = 4'-0"
FW = 3 1/2"
W = 2"

Displacement & Tons per inch
at other drafts:-

12'-4" = 850 Tons = 10.5 Tons per inch.

8'-3" = 360 Tons = 10.0 Tons per inch.

4'-6" = 9.5 Tons per inch.

Forecastle equivalents:-

Length to bhd = 24.12 - 4.67 = 19.45'

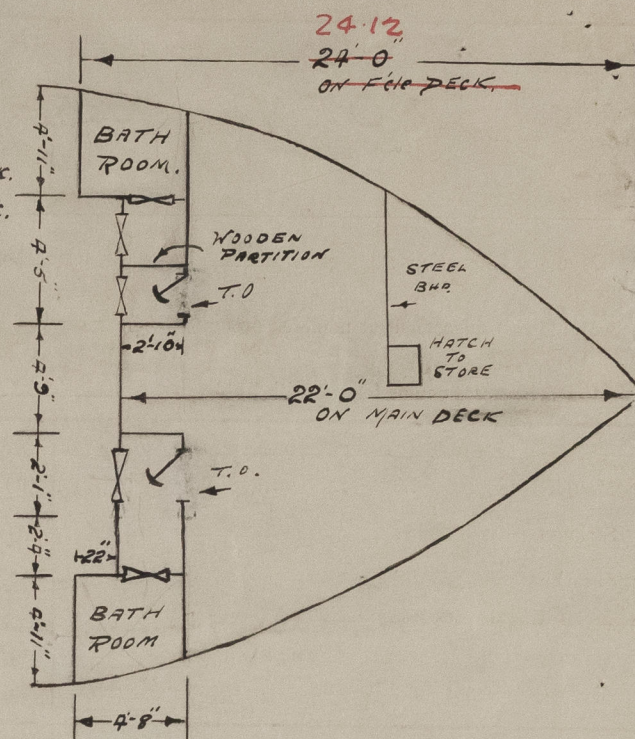
Recess $\frac{2.83 \times 4.75}{24.75} = .54'$

Enclosed fore = 19.99' ✓

Equiv overhang = 24.12 - 19.99 = 4.13' .2.06

FORECASTLE
ON MAIN DECK.

BREADTH
= 23'-5" MAIN DK.
= 27'-6" FOLE DK.



Trade of ship New Zealand Coastal Trade

Names of sister ships

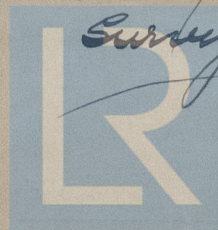
Builder's name and yard number J. S. White & Co. Ltd., Bowes N° 1546.

Owners The Canterbury Steam Shipping Co. Ltd.

Fee £ 10 - 10 - 0

Repairs 5 - 5 - 0.

W. W. Martin
Surveyor



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Lloyd's Register
Foundation