

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No. 100742

15 JUL 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker

ing

poop, bridge and fore

Port of Survey LiverpoolDate of Survey July 1932Name of Surveyor A.W. JACKSON.Particulars of Classification 100A1.

S.S./W. No. 1-31

Ship's Name

"CHESHIRE"

Nationality and Port of Registry

BritishLiverpool

Official Number

149625

Gross Tonnage

10520.410552

Date of Build

1924-7m.Moulded Dimensions: Length 432.0 Breadth 60.0 Depth 36.25Moulded displacement at moulded draught = 85 per cent. of moulded depth 19213. tonsCoefficient of fineness for use with Tables 754.

Depth for Freeboard (D)

Moulded depth 36.25Stringer plate ... 45" 0.4Sheathing on exposed deck 3" P.P. $T \left(\frac{L-S}{L} \right) = 25 \times \frac{432-36.25}{432} = 25 \times 0.915 = 22.875$ Depth for Freeboard (D) = 36.34

Depth correction

(a) Where D is greater than Table depth (D-Table depth) R =

 $(36.34 - 32.13) \times 3 = 12.63$

(b) Where D is less than Table depth (if allowed) (Table depth-D) R =

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) 60.0Standard Round of Beam = $\frac{B \times 12}{50} = 14.4$ Ship's Round of Beam = 9"Difference 5.4

Restricted to

Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{5.4^2}{4} \times \left(1 - \frac{1821}{432} \right) = 25$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<u>51.25</u>	<u>51.25</u>	<u>7.75</u>		<u>51.25</u>
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	<u>265.0</u>	<u>265.00</u>	<u>8.5</u>		<u>265.00</u>
" overhang aft					
" overhang forward					
Fore enclosed	<u>78.0</u>	<u>78.00</u>	<u>7.75</u>		<u>78.00</u>
" overhang					
Trunk aft					
forward					
Tonnage opening aft					
" forward					
Total	<u>394.25</u>	<u>394.25</u>			<u>394.25</u>

Standard Height of Superstructure 7.5

" " R.Q.D.

Deduction for complete superstructure 42.00Percentage covered $\frac{S}{L} = 81.79$ " $\frac{S_1}{L} = 81.79$ " $\frac{E}{L} = 81.79$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 77.52

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 32.56

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>58.20</u>	1		<u>58.20</u>	<u>61.0</u>	<u>61.0</u>	1		<u>61.0</u>
$\frac{1}{4}$ L from A.P.	<u>25.90</u>	4		<u>103.60</u>	<u>14.75</u>	<u>24.624</u>	4		<u>98.4</u>
$\frac{2}{4}$ L "	<u>6.40</u>	2		<u>12.80</u>	<u>8.5</u>	<u>2.5</u>	2		<u>5.0</u>
Amidships	<u>✓</u>	4		<u>✓</u>	<u>1.5</u>	<u>0</u>	4		<u>✓</u>
$\frac{3}{4}$ L from F.P.	<u>12.80</u>	2		<u>25.60</u>	<u>30.5</u>	<u>23.7</u>	2		<u>47.4</u>
$\frac{1}{4}$ L "	<u>51.80</u>	4		<u>207.20</u>	<u>70.38</u>	<u>68.0</u>	4		<u>272.0</u>
F.P.	<u>116.40</u>	1		<u>116.40</u>	<u>120.0</u>	<u>120.0</u>	1		<u>120.0</u>
Total				<u>523.80</u>					<u>603.8</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{523.8 - 603.8}{18} \left(\frac{75-400}{2 \times 432} \right) = 1.52$

If limited on account of midship superstructure.

Mean actual sheer aft = Deficient 75%
Mean standard sheer aftMean actual sheer forward = Excess
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = 20" " aft of " = 35

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

24" Wood Deck

Depth to Freeboard Deck = 36.48Summer freeboard = 6.89Moulded draught (d) = 29.59

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 7.40 = 7½

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 18,440$

Tons per inch immersion at summer load water line

T = 60.0Deduction = $\frac{\Delta}{40T}$ inches7.687¾

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{754 + 65}{1.36} = \frac{14.34}{1.36}$ Depth Correction 12.63Deduction for superstructures 32.56Sheer correction 1.52Round of Beam correction 25Correction for Thickness of Deck amidships 24" sheathing 1.65

Other corrections, scantlings, etc.

Summer Freeboard = 82.65

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

Tropical Fresh Water Line above Centre of Disc	<u>15¼</u>
Fresh Water Line " "	<u>7¼</u>
Tropical Line " "	<u>7½</u>
Winter Line below " "	<u>7½</u>
Winter North Atlantic Line " "	

Tropical Fresh Water Freeboard	<u>6-10¾</u>
Fresh Water " "	<u>5-7½</u>
Tropical " "	<u>6-3</u>
Winter " "	<u>6-23¼</u>
Winter North Atlantic " "	<u>7-6¼</u>

a passing line to be marked 7½" below the centre of disc

Lloyd's Register
MARKING FORM
RECEIVED

Cheshire

Particulars of Flush Bunker Scuttles:— *None fitted.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

1 Vent. on Fiddle Head, 12" diam., coamings 36"x40", led to F.P. Store.	All low vents provided
1 Anchor Davit with H.V. 21" diam. led to F.P. spaces.	with canvas covers.
5 H.V.'s in Fiddle Head, 18" diam., coamings 36"x40", led to hold spaces.	
2 Suction Pumps with H.V. in forward well 12" diam., " "	
2 H.V.'s on Contactor House in " " 18" diam., coamings 36"x40", led to hold spaces.	
4-8"x4" Cyfe's Vents on Bridge Deck aft, 24" high, led to baggage and spirit rooms.	
2-8"x4" " " " " " coal bunker.	

Particulars of Gangway Cargo and Coaling Ports:—

1. Gangway Ports, 1 Panel is, $5'4" \times 3'9"$ and $5'9" \times 5'0"$ in Bridge Tween Dks., efficiently supported and of substantial construction.

2. Cargo Ports, 1 Panel is, $2'6" \times 2'3"$ in Nos. 2, 3, 4 and 5 upper Tween Dks., efficiently supported and of substantial construction.

3. T. Coaling Ports, 1 Panel is in Bridge Tween DK, size $2'6" \times 2'0"$, efficiently supported and of substantial construction.

Particulars of Gangways, Lifelines, etc. :- Gangway of substantial construction, adequately supported, fitted from Bridge to Popok.
 Gangway of substantial construction, adequately supported, fitted from Bridge Front to Contractor House in forward well. Ladder led to top of No 2 Hatch, and lifeline rigged from contractor house to fore bulkhead. Lifelines also fitted in well P.S. from Bridge front to fore, strongly constructed and efficiently supported.

State position of each freeing port ... } After Well:— $\rightarrow 3'-0'' \mid 4'-6'' \mid 3'-0'' \mid 4'-5'' \mid \rightarrow$ Ford.
(F. and A. position and height above deck edge) } Forward Well:— $\rightarrow 3'-0'' \mid 4'-4'' \mid 3'-0'' \mid 22'-0'' \mid 3'-0'' \mid 10'-4'' \mid \rightarrow$ Ford.
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— *Shutters hinged at top edge, two horizontal bars. Lower edge of shutters at top of sheerstrake, is dhdk.*
Additional area where sheer is less than standard.

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Coop Bulkhead	✓ Passages P.T.S. closed by 2½" weather boards in riveted channels, full height.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	✓ Heavy teak doors capable of being manipulated from both sides. ✓
Bridge, Forward Bulkhead	✓ No openings.
Forecastle Bulkhead	✓ Passages P.T.S. closed by 2½" weather boards in riveted channels, full height.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓ Steel doors capable of being manipulated from both sides. ✓
Decks on Flush Deck Ships ...	✓

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Pool Bulkhead	✓	Passages P.S. closed by 2½" weather boards in riveted channels, full height.
Raised Quarter Deck Bulkhead ...	✓	
Bridge, After Bulkhead	✓	Heavy teak doors capable of being manipulated from both sides.
Bridge, Forward Bulkhead	✓	No openings.
Forecastle Bulkhead	✓	Passages P.S. closed by 2½" weather boards in riveted channels, full height.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓	
Exposed Machinery Casings on Super-structure Decks	✓	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓	Steel doors capable of being manipulated from both sides.
Decks on Flush Deck Ships ...	✓	

[illegible]

Displacement

$36.25 \times .85 = 30.8125$

Kids = 1.125

$30.94 - 30.8125 = 0.1275$

$29.15 - 1.125 = 28.025$

$28.025 - 1.925 = 26.1$

$26.175 \times 597 = 15626.475$

1299

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Received by me.