

Amended Computation due to
fitting of recesses at after End of Bridge.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. 29564.
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Roop, Bridge, & Forecastle.

(Type of Superstructures.)

Ship's Name

Nationality and Port of Registry
W. Harlepool
British

Official Number

138929

Gross Tonnage

5074

Date of Build

1920

Port of Survey Barry

Date of Survey July 7th 1932

Name of Surveyor D. E. Fielden

Particulars of Classification T 100 A 1

Moulded Dimensions: Length 400.00 Breadth 50.00 Depth 31.00
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12024 tons
Coefficient of fineness for use with Tables 768

Depth for Freeboard (D)

Moulded depth 31.00
Stringer plate04
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$ ✓

Depth for Freeboard (D) = 31.04

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R = $(31.04 - 26.67) 3.00$
 $= + 13.11"$
(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) 52.00
Standard Round of Beam = $\frac{B \times 12}{50} = 12.48$
Ship's Round of Beam = 13.00
Difference Excess .52
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.52^2}{4} \times .517 = -.07"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<u>35.50</u>	<u>35.50</u>	<u>8'-0"</u>	<u>✓</u>	<u>35.50</u>
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed <u>Equid.</u>	<u>115.53</u>	<u>115.53</u>	<u>8'-0"</u>	<u>✓</u>	<u>115.53</u>
" overhang aft	<u>3.97</u>	<u>2.98</u>	<u>✓</u>		<u>2.98</u>
" overhang forward	<u>.75</u>	<u>.37</u>			<u>.37</u>
Fore enclosed <u>open</u>	<u>38.83</u>	<u>38.83</u>	<u>8'-0"</u>	<u>✓</u>	<u>38.83</u>
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	<u>194.58</u>	<u>193.21</u>			<u>193.21</u>

Standard Height of Superstructure 7.50

" " R.Q.D. ✓

Deduction for complete superstructure 42.00

Percentage covered $\frac{S}{L} = 48.65\%$

" " $\frac{S_1}{L} = 48.30\%$

" " $\frac{E}{L} = 48.30\%$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required))

Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) 34.55%

Interpolation for bridge less than 2L (if required)

Deduction = $42 \times .3455 = - 14.51"$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>50.00</u>	<u>1</u>	<u>✓</u>	<u>50.00</u>	<u>60.00</u>	<u>60.00</u>	<u>1</u>	<u>✓</u>	<u>60.00</u>
$\frac{1}{8}$ L from A.P.	<u>22.25</u>	<u>4</u>	<u>✓</u>	<u>89.00</u>	<u>26.07</u>	<u>26.07</u>	<u>4</u>	<u>✓</u>	<u>104.28</u>
$\frac{2}{8}$ L "	<u>5.50</u>	<u>2</u>	<u>✓</u>	<u>11.00</u>	<u>6.52</u>	<u>6.52</u>	<u>2</u>	<u>✓</u>	<u>13.04</u>
Amidships	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>
$\frac{3}{8}$ L from F.P.	<u>11.00</u>	<u>2</u>	<u>✓</u>	<u>22.00</u>	<u>12.28</u>	<u>12.28</u>	<u>2</u>	<u>✓</u>	<u>24.56</u>
$\frac{4}{8}$ L "	<u>44.50</u>	<u>4</u>	<u>✓</u>	<u>178.00</u>	<u>53.13</u>	<u>53.13</u>	<u>4</u>	<u>✓</u>	<u>212.52</u>
F.P.	<u>100.00</u>	<u>1</u>	<u>✓</u>	<u>100.00</u>	<u>120.00</u>	<u>120.00</u>	<u>1</u>	<u>✓</u>	<u>120.00</u>
Total				<u>450.00</u>					<u>536.40</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{86.40}{18} (.75 - .2432) = - 2.43"$

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.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 31.04
Summer freeboard = 6.02
Moulded draught (d) = 25.02

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.25 = 6 $\frac{1}{4}$

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

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 11444$

Tons per inch immersion at summer load water line

$T = 41.55$

Deduction = $\frac{\Delta}{40T}$ inches

= 6.89

= 7

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<u>13.11</u>	<u>✓</u>
Deduction for superstructures	<u>-</u>	<u>14.51</u>
Sheer correction	<u>-</u>	<u>2.43</u>
Round of Beam correction	<u>-</u>	<u>.07</u>
Correction for Thickness of Deck amidships	<u>-</u>	<u>-</u>
Other corrections, scantlings, etc.	<u>-</u>	<u>-</u>
	<u>13.11</u>	<u>17.01</u>

Summer Freeboard = 72.23

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

Tropical Fresh Water Line above Centre of Disc 13 $\frac{1}{4}$ "
Fresh Water Line " " 7"
Tropical Line " " 6 $\frac{1}{4}$ "
Winter Line below " " 6 $\frac{1}{4}$ "
Winter North Atlantic Line " " ✓

Tropical Fresh Water Freeboard 4 $\frac{1}{4}$ "
Fresh Water " " 5 $\frac{1}{4}$ "
Tropical " " 5 $\frac{1}{4}$ "
Winter " " 6 $\frac{1}{4}$ "
Winter North Atlantic " " ✓

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway										
Dimensions of Hatchway										
COAMINGS	{	Height above Deck	...							
		Thickness	...							
		Sides	...							
		Ends	...							
		Stiffeners	...							
		Brackets, Stays	...							
HATCH BEAMS	{	Number	...							
		Spacing	...							
		Scantling and Sketch	...							
		Bearing Surface	...							
FORE AND AFTERS	{	Number	...							
		Spacing	...							
		Unsupported Lengths	...							
		Scantling* and Sketch	...							
		Bearing Surface	...							
HATCH COVERS	{	Material	...							
		Thickness	...							
		How fitted	...							
		Bearing Surface	...							
Spacing of Cleats			...							
Number of Tarpaulins			...							
<p>*Are wood fore and afters steel shod at all bearing surfaces ?</p> <p>Are battens and wedges efficient and in good condition ?</p> <p>Are tarpaulins in good condition and in accordance with rule requirements ?</p> <p>Are lashings provided in accordance with rule requirements ?</p>										

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

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

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

Particulars of Gangway Cargo and Coaling Ports :—

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Particulars of Scuppers and Sanitary Discharge Pipes :—

Particulars of Side Scuttles:—

Particulars of Guard Rails :—

Particulars of Gangways, Lifelines, etc. :—

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well						
Forward Well						


State position of each freeing port
 { R. and A. position and height above deck edge } After Well :—
 { Forward Well :—

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :—

Additional area where sheer is less than standard.

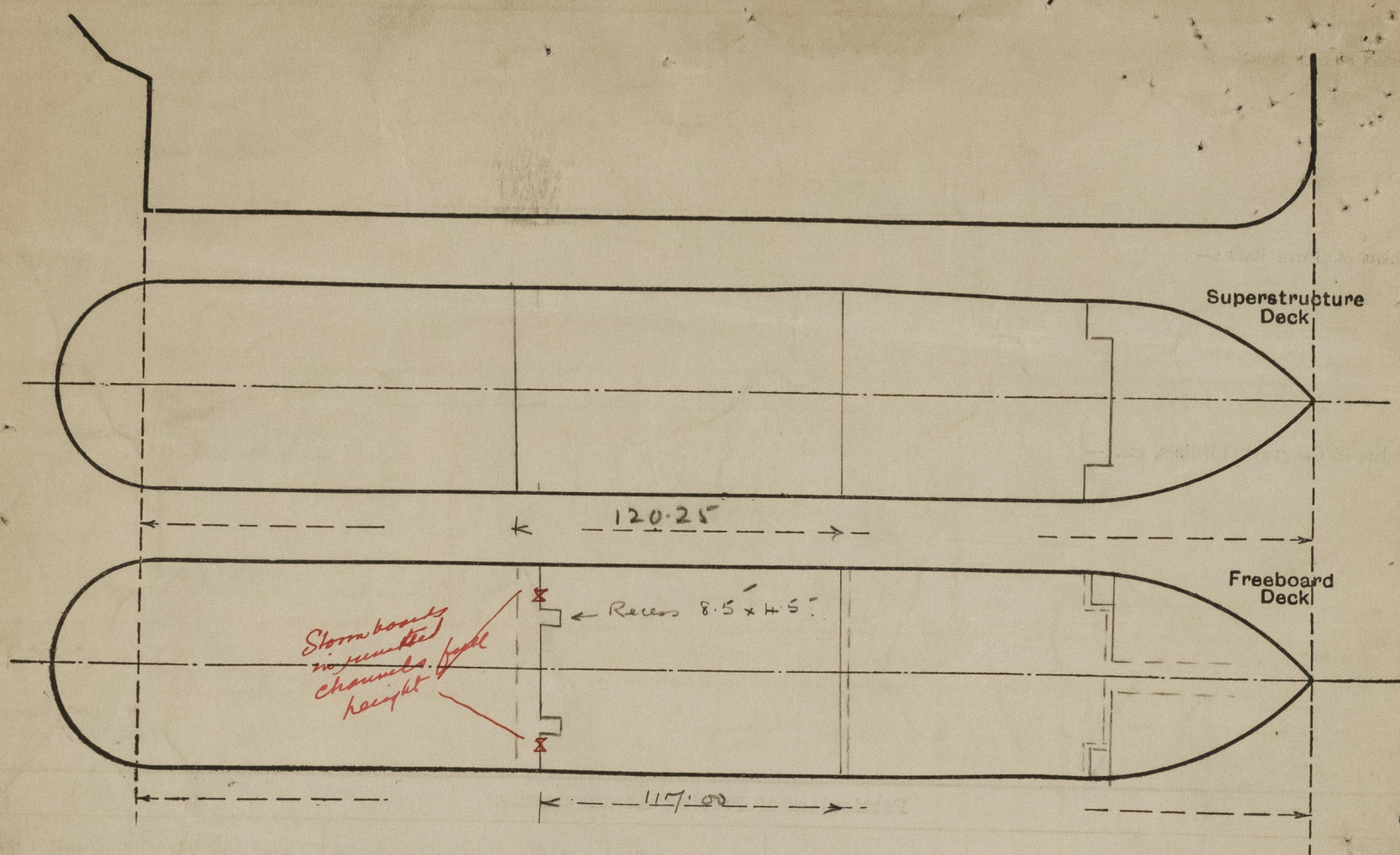
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
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								
Deckhouses on Flush Deck Ships ...								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	2" weather boards in riveted channels full height
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	Storm boards in riveted channels full height
Bridge, Forward Bulkhead	Hinged Steel doors secured with 1 1/2" steel bolts with nuts outside
Forecastle Bulkhead	Open.
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	
Deckhouses on Flush Deck Ships ...	



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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



Bridge

$$\frac{8.5 + 4.50 \times 2}{52.0}$$

$$\frac{117.00}{1.47} = 115.53 \text{ eqm.}$$

State any special features in the construction of the ship:—

$$O.H. = \frac{2.50}{1.47} = 3.97$$

Builder's name and yard number

Names of sister ships

Owners

Fee £

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