

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having POOP BRIDGE FORECASTLE

(Type of Superstructures.)

Ship's Name FORTH BRIDGE Nationality and Port of Registry BRITISH W. HARTLEPOOL Official Number 139254 Gross Tonnage 5140 Date of Build 1928

Port of Survey ROTTERDAM

Date of Survey 16-9-1932

Name of Surveyor W. van der Meer

Particulars of Classification 100 A1

Moulded Dimensions: Length 390.00 Breadth 54.54 Depth 30.16

Moulded displacement at moulded draught = 85 per cent. of moulded depth 12296 tons

Coefficient of fineness for use with Tables .789

Depth for Freeboard (D) 30.21

Depth correction

(a) Where D is greater than Table depth (D - Table depth) R =  $(30.21 - 26.00) 3 = + 12.63$

(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) 54.54

Standard Round of Beam =  $\frac{B \times 12}{50} = 13.09$

Ship's Round of Beam = 13.60

Difference .51

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.51}{4} \times .194 = -.02$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	32.46	32.46	7.50		32.46
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	254.08	254.08	7.50		254.08
" overhang aft ...					
" overhang forward ...					
Trunk enclosed ...	27.80	27.80	7.50		27.80
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	314.34	314.34			314.34

Standard Height of Superstructure 7.40

" " R.Q.D. 41.33

Deduction for complete superstructure 41.33

Percentage covered  $\frac{S}{L} = 80.60\%$

" "  $\frac{S_1}{L} = 80.60\%$

" "  $\frac{E}{L} = 80.60\%$

Percentage from Table, Line A. (corrected for absence of forecastle (if required)) 76.04%

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

Interpolation for bridge less than 2L (if required)

Deduction =  $41.33 \times .7604 = - 31.43$

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	49.00	1		49.00	53.25	53.25	1		53.25
$\frac{1}{4}$ L from A.P. ...	21.80	4		87.20	23.11	23.11	4		92.44
$\frac{3}{4}$ L " ...	5.39	2		10.78	5.78	5.78	2		11.56
Amidships ...		4					4		
$\frac{3}{4}$ L from F.P. ...	10.78	2		21.56	12.24	12.24	2		24.48
$\frac{1}{4}$ L " ...	43.60	4		174.40	48.98	48.98	4		195.92
F.P. ...	98.00	1		98.00	114.00	114.00	1		114.00
Total ...				440.94					491.65

Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{50.71}{18} = 2.82$

If limited on account of midship superstructure.

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 = > 1L

" " aft of " = > 1L

$.347 \times (75 - .403) = -.98$

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 = 30.21 Ft.

Summer freeboard = 4.50

Moulded draught (d) = 25.71

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches =  $6.43 = 6\frac{1}{2}$

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 12,390$

Tons per inch immersion at summer load water line

$T = 43.6$

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

= 7.10

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{789 + .68}{1.36} = \frac{1467}{1.36}$

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = 54.08

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

Tropical Fresh Water Line above Centre of Disc 13.5

Fresh Water Line " " 6.5

Tropical Line " " 6.5

Winter Line below " " 6.5

Winter North Atlantic Line " " 6.5

Tropical Fresh Water Freeboard ... 4' - 6"

Fresh Water " " 3' - 4 1/2"

Tropical " " 3' - 11"

Winter " " 3' - 11 1/2"

Winter North Atlantic " " 5' - 0 1/2"

180 SEP 1932

Lm. 3.32.

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	I	II	FREEBOARD DECK		II	II	BRIDGE DECK		II
			FOREWELL	BRIDGEWELL			FOREWELL	BRIDGEWELL	
Dimensions of Hatchway	29'3" x 20'0"	30'4" x 20'0"	16'4" x 10'0"	30'4" x 20'0"	30'4" x 20'0"	30'4" x 20'0"	16'4" x 10'0"	30'4" x 20'0"	30'4" x 20'0"
COAMINGS	Height above Deck	48"	48"	48"	48"	48"	48"	48"	48"
	Thickness Sides	.50"	.50"	.44"	.50"	.50"	.44"	.50"	.50"
	Thickness Ends	.44"	.44"	.44"	.44"	.44"	.44"	.44"	.44"
	Stiffeners	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
HATCH BEAMS	Brackets, Stays	W1	3/4" x 2 1/2"	—	—	—	3/4" x 2 1/2"	—	3/4" x 2 1/2"
	Number	5	5	3	5	5	3	5	5
	Spacing	—	—	—	—	—	—	—	—
	Scantling and Sketch	—	—	—	—	—	—	—	—
FORE AND AFTERS	PLATE	18" x 36"	18" x 36"	14" x 34"	18" x 36"	18" x 36"	14" x 34"	18" x 36"	18" x 36"
	4X4	4" x 3" x 44"	4" x 3" x 44"	4" x 3" x 44"	4" x 3" x 44"	4" x 3" x 44"	4" x 3" x 44"	4" x 3" x 44"	4" x 3" x 44"
	Bearing Surface	—	—	—	—	—	—	—	—
	Number	—	—	—	—	—	—	—	—
HATCH COVERS	Material	—	—	—	—	—	—	—	—
	Thickness	—	—	—	—	—	—	—	—
	How fitted	—	—	—	—	—	—	—	—
	Bearing Surface	—	—	—	—	—	—	—	—
Spacing of Cleats	—	—	—	—	—	—	—	—	—
Number of Tarpaulins	—	—	—	—	—	—	—	—	—

Are wood fore and afters steel shod at all bearing surfaces? ☒ YES  
 Are battens and wedges efficient and in good condition? ☒ YES  
 Are tarpaulins in good condition and in accordance with rule requirements? ☒ YES  
 Are lashings provided in accordance with rule requirements? ☒ ALL EXPOSED HATCHES 3 RINGS EACH SIDE — MANILLA ROPES.

Particulars of fiddle, funnel and ventilator coamings: —  
*Fiddle, funnel, saddleback hatch, steel engineering and ventilators of an efficient construction and in good condition. Redlegging fitted with hinged steel covers.*

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

Particulars of Companionways: —  
*Only on poopdeck. Strongly constructed steel deckhouse. At fore and aft ordinary hatch door, operated both sides. Sill 18"*

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

FOCLE DECK	BRIDGE DECK	POOP DECK	FORECASTLE DECK
3 VENTS 14" COAM. 30" x 38" TO FOCLE AND PEAK.	2 VENTS 11" COAM. 30" x 36" TO HOLD.	1 VENT 9" COAM. 30" x 30" TO TUNNEL.	1 VENT 9" COAM. 30" x 30" TO HOLD.
1 " 10" " 30" x 40" " HOLD.	1 " 10" " 30" x 40" " HOLD.	1 " 10" " 30" x 40" " HOLD.	1 " 10" " 30" x 40" " HOLD.
4 VENTS 18" " 30" x 40" " HOLDS.	1 " 15" " 29" x 40" " HOLDS.	1 " 15" " 30" x 30" " STOWES.	1 " 15" " 30" x 30" " BRIDGE.
1 " 15" " 30" x 30" " STOWES.	1 " 15" " 30" x 30" " BRIDGE.	1 " 15" " 30" x 30" " BRIDGE.	1 " 15" " 30" x 30" " BRIDGE.
2 " 15" " 40" x 30" " BRIDGE.	1 " 15" " 30" x 30" " BRIDGE.	1 " 15" " 30" x 30" " BRIDGE.	1 " 15" " 30" x 30" " BRIDGE.
2 " 15" " 30" x 30" " BRIDGE.	1 " 15" " 30" x 30" " BRIDGE.	1 " 15" " 30" x 30" " BRIDGE.	1 " 15" " 30" x 30" " BRIDGE.

*Construction complies with Rules. Good plug and canvas covers on board.*

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

FOCLE DECK	BRIDGE DECK	POOP DECK
1 AIR. 3" x 16" F.P. TANK.	4 " 2 1/2" x 21" B.B.	2 " 3" x 20" " "
2 " 3" x 20" " "	2 " 3" x 20" " "	2 " 3" x 20" " "
2 " 3" x 20" " "	2 " 3" x 20" " "	2 " 3" x 20" " "
2 " 3" x 20" " "	2 " 3" x 20" " "	2 " 3" x 20" " "

*Wood plugs are on board.*

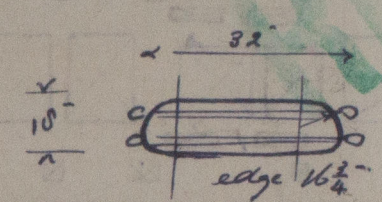
Particulars of Gangway Cargo and Coaling Ports: —  
*none fitted.*

Particulars of Scuppers and Sanitary Discharge Pipes: —  
*Sanitary discharge pipes lead all from spaces situated above floorboard deck and are fitted with stormvalves. Bridgepass drains through 4 scuppers each side to ship's side — stormvalves fitted.*

Particulars of Side Scuttles: —  
*Only in poop space; of a strong construction and fitted with hinged steel deadbolts.*

Particulars of Guard Rails: —  
*Toole deck, forepart bridge, afterpart bridge and forepart open rail. riveted stanchions 40" high and 5" x 5" apart — 3 rods. Aft part 2" x 3" hatch plate bulwark 39" with 3 freeing ports, forms no wells.*

Particulars of Gangways, Lifelines, etc.: —  
*It is a practice to fix lifelines in both wells, from ladder to ladder.*



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	39.66	4'	32" x 10"	3	10.50 f <sup>2</sup>	10.5 f <sup>2</sup>
Forward Well	36'	4'	2"	3	10.50 f <sup>2</sup>	10.1

State position of each freeing port: — After Well: — SEE SKETCH (F. and A. position and height above deck edge) Forward Well: — EDGE 16 1/2"

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — 2 HORIZ. BARS.

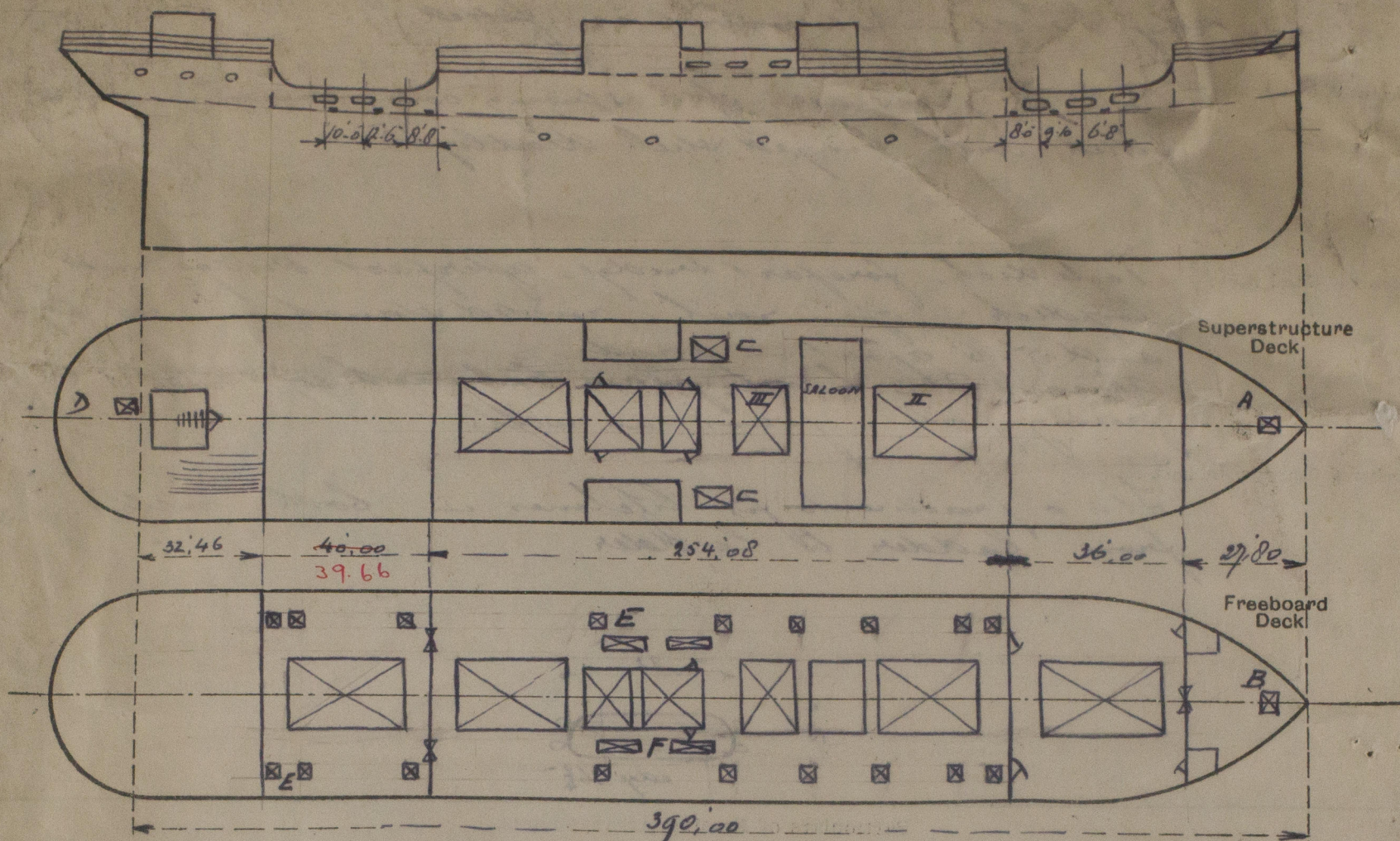
Additional area where sheer is less than standard.

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	18" x 44"	40"	2 x 3 1/2" x 3 1/2"	30"	2 BRACKETS	NONE	—	—
Raised Quarter Deck Bulkhead	—	—	—	—	—	—	—	—
Bridge, After Bulkhead	17" x 40"	30"	?	20"	?	3'0" x 3'2"	17"	—
Bridge, Forward Bulkhead	18" x 44"	40"	?	30"	BRACKETS AT TOP	4'6" x 3'2"	21"	—
Forecastle Bulkhead	16" x 38"	30"	2 x 3" x 32"	24"	NONE	3'0" x 4'0"	18"	—
Trunk, Aft	—	—	—	—	—	—	—	—
Trunk, Forward	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Superstructure Decks OR BRIDGE	17" x 38"	30"	2 x 3" x 30"	20"	NONE	4'7" x 22"	17"	7'9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	18" x 38"	30"	2 x 3" x 30"	20"	NONE	4'6" x 22"	18"	—
Deckhouses on Flush Deck Ships	—	—	—	—	—	—	—	—

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	—
Raised Quarter Deck Bulkhead	—
Bridge, After Bulkhead	Portable plates on 8 hook bolts, passing through plate only.
Bridge, Forward Bulkhead	Hinged steel doors, fastened from outside by 16 bolts, spaced 10-12" apart.
Forecastle Bulkhead	3" storm boarded in riveted full height. In usage ordinary hinged steel doors.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	—
Exposed Machinery Casings on Superstructure Decks OR BRIDGE	—
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	—
Deckhouses on Flush Deck Ships	—



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:—



Hatch A on foredeck. 4'0" x 3'6". Coaming: 26" x 40". Complete battening down arrangement. ✓  
 — B. in fore space. 4'0" x 3'6". — B.A. 9' x 3' x 46" — — — — ✓  
 — C on bridge deck. 9'0" x 6'0". — 30' x 38" — — — — ✓  
 — D on foredeck. 3'0" x 3'0". — 17' x 36" — — — — ✓

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

Escape hatches E in bridge. Coaming: B.A. 9' x 3' x 46". Complete b.d. arr. ✓  
 4 Coalhatches F in bridge 9'2" x 3'0". Coaming: B.A. 9' x 3' x 46". Complete battening down arrangement. ✓

The survey has been carried out whilst vessel was afloat and loaded. The ends of the bridge space being not accessible, nor could the stringer plate be gauged. ✓

End 1. 25' - 6 3/4 12,226 43.6

End 2. 25' - 7 3/4 12,226 43.6

3 x 43.6 = 131  
 1235.7  
 61  
 12296

End 1. 25' - 8 1/2 12,226 43.6

End 2. 25' - 10 1/2 12,226 43.6

3 3/4 x 43.6 = 164  
 12226  
 12390

Builder's name and yard number

W. Duxford & Sons Ltd. Sunderland.

Names of sister ships

North of England P.P. Co. (Crosby Son & Co. Ltd.)

Owners

Fee

163.20

Well be Received by me

Rotterdam 16th September 1932

Expenses of 2.00.

W. Duxford



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