

DISCLOSED SECTION

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30 SEP 1932

471

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

11.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Poop, Bridge and Forecastle Decks.

Port of Survey Liverpool.

(Type of Superstructures.)

Date of Survey Sept. 27th etc.

Ship's Name "ULSTER CASTLE".

Nationality and Port of Registry British Belfast.

Official Number 144200.

Gross Tonnage 1217.

Date of Build 1920.A.

Name of Surveyor T. Richardson.

Particulars of Classification 100.A.1.

SS. Bkn No 2-29

Moulded Dimensions: Length 244.5. Breadth 34.0. Depth 16.5.

Moulded displacement at moulded draught = 85 per cent. of moulded depth 2220 tons

Coefficient of fineness for use with Tables .666

Depth for Freeboard (D)

Moulded depth ... 16.50

Stringer plate ... MAIN DECK ... 52" ... 03

Sheathing on exposed deck

$T \left(\frac{L-S}{L} \right) = .25 \times 26.69$... 07

See sketch.

Depth for Freeboard (D) = 16.60

Depth correction

(a) Where D is greater than Table depth

$(D - \text{Table depth}) R =$

$(16.60 - 16.30) 1.88 = + .56$

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

$(\text{Table depth} - D) R =$

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) 34.0

Standard Round of Beam = $\frac{B \times 12}{50} = 8.16$

Ship's Round of Beam = 8.16

Difference .34

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.34}{4} (1 - .578) = -.04$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	67.58	67.58	7.6	-	67.58	Standard Height of Superstructure 6'
" overhang ...	3.83	1.91			1.91	" " R.Q.D. ✓
R.Q.D. enclosed ...						Deduction for complete superstructure 30.45
" overhang ...						Percentage covered $\frac{S}{L} = 73.31$
Bridge enclosed ...	72.50	36.00	7.6	-	36.00	" " $\frac{S_1}{L} = 57.80$
" overhang aft ...						" " $\frac{E}{L} = 57.80$
" overhang forward ...	11.00				35.84	Percentage from Table, Line A. ✓ 42.92
Fore enclosed ...	33.91	35.84	7.6	-		(corrected for absence of forecastle (if required))
" overhang ...	1.6					Percentage from Table, Line B. 43.8
Trunk aft ...						(corrected for absence of forecastle (if required)) .88
forward ...						Interpolation for bridge less than .2L (if required) $42.92 + (.88 \times \frac{36}{42.9}) = 43.8$
Tonnage opening aft ...						Deduction = $30.45 \times .4387 = - 13.27$
" forward ...						
Total ...	179.25	141.33			141.33	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	34.45	1		34.45	32.50	32.50	1		32.50
1/2 L from A.P. ...	15.33	4		61.32	12.05	12.05	4		48.20
3/4 L " ...	3.79	2		7.58	3.01	3.01	2		6.02
Amidships ...		4					4		
3/4 L from F.P. ...	7.58	2		15.16	6.32	6.32	2		12.64
1/2 L " ...	30.66	4		122.64	25.28	25.28	4		101.12
F.P. ...	68.90	1		68.90	54.00	54.00	1		54.00
Total ...				310.05					254.48

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{55.57}{18} (.75 - .3665) = + 1.18$

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.

Depth to Freeboard Deck = 16.78

Summer freeboard = 1.81

Moulded draught (d) = 14.97

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.74 = 3 3/4

Addition for Winter North Atlantic Freeboard (if required) = + 2

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 2410$

Tons per inch immersion at summer load water line

$T = 16.3$

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

= 3.70

= 3 3/4

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction56	
Deduction for superstructures ...		13.27
Sheer correction ...	1.18	
Round of Beam correction04
Correction for Thickness of Deck amidships ...	2.16	
Other corrections, scantlings, etc. ...		
	3.90	13.31
Summer Freeboard =	21.79	

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: - MAIN DECK 1-9 3/4

Tropical Fresh Water Line above Centre of Disc ...	7 1/2	Tropical Fresh Water Freeboard ...	1-2 1/4
Fresh Water Line " " ...	3 3/4	Fresh Water " " ...	1-6
Tropical Line " " ...	3 3/4	Tropical " " ...	1-6
Winter Line below " " ...	3 3/4	Winter " " ...	2-1 1/2
Winter North Atlantic Line " " ...	5 3/4	Winter North Atlantic " " ...	2-3 1/2

5m, 3.32.

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


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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway			Nº 1. FORº MAIN DK	Nº 2. MAIN DK	Nº 3. MAIN DK	Nº 4. MAIN DK		Nº 4. POOP DK			
Dimensions of Hatchway			9'6" x 10'0"	19'4" x 12'0"	9'7" x 12'0"	11'4" x 12'0"		11'6" x 12'2"			
COAMINGS	{	Height above Deck	2'0"	2'0"	2'0"	9"		2'0"			
		Thickness	44"	44"	44"	44"		50"	40"		
		Stiffeners	✓	7 x 3 x 20 B.A ON SIDES.	7 x 3 x 20 B.A AT ENDS.	✓		✓			
		Brackets, Stays	✓			✓		✓			
HATCH BEAMS	{	Number		3		1		1			
		Spacing		6'5 1/2"		5'8"		5'9"			
		Scantling and Sketch	✓		✓						
				Plate 12'6" x 32" ang. 3'3" x 40"		Plate 12'6" x 32" ang. 3'3" x 40"		Plate 12'6" x 32" ang. 3'3" x 40"			
		Bearing Surface		3"		3"		3"			
FORE AND AFTERS	{	Number	3	3	3	3		3			
		Spacing	2'6"	3'0"	3'0"	3'0"		3'0"			
		Unsupported Lengths	9'6"	6'5"	9'7"	5'8"		5'9"			
		Scantling* and Sketch									
			Centre.	9 1/2" x 7 1/2" OAK	8 1/2" x 7 1/2" OAK	10" x 7 1/2" OAK	8" x 7" OAK		8" x 8" OAK		
	Sides.	8" x 7 1/2"	6 1/2" x 6"	8" x 7 1/2"	6" x 6"		6" x 6"				
	Bearing Surface	3"	3 1/2"	3"	3"		3"				
HATCH COVERS	{	Material	W. W.	W. W.	W. W.	W. W.		W. W.			
		Thickness	2 1/2" + 3"	2 1/2" + 3"	2 1/2" + 3"	2 1/2"		2 1/2"			
		How fitted	How and clips	How and clips	How and clips	How and clips		How and clips			
		Bearing Surface	2 1/2"	2 1/2"	2 1/2"	2 1/2"		2 1/2"			
Spacing of Cleats			21"	24"	22"	23"		22"			
Number of Tarpaulins			2.	2.	2.	2.		4.			

*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? None fitted.

Particulars of fiddley, funnel and ventilator coamings:—

Slake Hold fralings are ~~not~~ covered on top of casings by steel cover permanently attached

Tunnel and Trolley ventilators in efficient condition

Engine skylight of Teak, strongly constructed. Teak flaps with $\frac{1}{2}$ " plain glass and gratings fitted.

Particulars of Flush Bunker Scuttles:—

2	Bunkers on Bridge D ^K	16½" diam.	C.1.	Lid has no joint: to Bridge T. D ^K
2	" " Main "	20½" "	C.1.	with 2 clips above & below & grating inside, to Bunkers below.
1	" " " "	22" "	C.1	" 2 " below & grating inside to Lower T. D ^K

Particulars of Companionways :—

1. Steel Companion 2'8" x 2'6" x 4'9" high on Poop Deck. Leading to Cattle mens quarters. with Teak door 3'8" x 2'1" + 9" Sill. 1 1/2" solid Teak Door, operated from both sides.

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

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

3 Vents on Forecastle Dk. 6" diam. Coamings 36" x $\frac{1}{2}$ " led to Crew space in Fore.	1 Vent on Fore Dk. 30" diam. Coamings 36" x $\frac{7}{16}$ " led to Fore Hold with openings to Tween Dks
2 Vents on Bridge Dk. 30" diam. Coamings 36" x $\frac{7}{16}$ " led to Hold, with openings to Tween Dks	1 Vent on Poop D. 26" diam. Coamings 36" x $\frac{7}{16}$ " led to Poop Tween Dks
1 " " " " 28" " " 36" x $\frac{7}{16}$ " " " after Hold, with openings to Tween Dks	1 " " " " 24" " " 36" x $\frac{7}{16}$ " " " lower Tween Dks
2 flush Vents 6" diam. & 10" high on Poop Dk to Cabinmen.	

Vents constructed in accordance with the Rules & Coamings closed with wood plugs and Canvas covers.

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

posed position on foreward, raised quarter, or superstructure decks:-

1.	W.I.	Air pipe on main Dk. in fore	6'6" high x 2½" diam.	led through ship's side from Fore Peak Tank.
3.	"	" " " " "	5'6" " x 1½" "	" " " F.W. Tank
2	"	" " " " " Poop	5'6" " x 1½" "	" " " Deep Tank aft.

Efficient closing appliances provided

Particulars of Gangway Cargo and Coaling Ports :—

1. Weatherlight Cargo Deck, P. & S. above freeboard 20' abreast W. 1. Hatch 8'6" x 7'0" in halves. Sill 10'.

1. " " " " " " " " 2. " 10'0" x 7'0" " " 10'

1. " " " " " " " " 3. " 8'6" x 6'10" " " 10'

1. " Coaming - 3. side " " " " 4'6" x 4'6" Sill 10'.

all efficiently constructed.

Particulars of Scuppers and Sanitary Discharge Pipes:—

3. 10" diam. w.i. Scuppers from Fore Well 7' x 4' out 2' 3" above 3rd Dk. Fitted with non return Valves.
2. Elbow Scuppers in Fore Well 7' x 4' out 18" below 3rd Dk. " " " " "
8. " " " " Bridge Tween Dks 7' x 4' out 3' 4" below 3rd Dk. " " " " "
6. 3" diam. w.i. Scuppers from Poop Dk. out 1' 6" above 3rd Dk.
4. 3" " " " Bridge " " 1' 6" " " " " " " " "

For Sanitary Discharges see Page 4.

Particulars of Side Scuttles:—

- 10" Diam. Side Scuttles to Crew space in Forecastle, in Bridge and Poop Tween Dks and to Catermen aft. fitted with hinged Deadlights.
all Scuttles of substantial construction.

Particulars of Guard Rails:—

- Guard rails on Forecastle Dk. 3' 6" high. with 3 rods and stanchions 3' 3" to 5' 0" apart.
" " " Bridge " 3' 6" " " " " " " 3' 3" apart.
" " " Poop " 3' 7" " " " " " " 4' 0" apart.
Steel bulwarks on 3rd Dk. in Wells 7' 9" high. efficiently constructed and supported.

Particulars of Gangways, Lifelines, etc.:—

- Gangway fitted from after end of Bridge to Poop, efficiently supported and hinged, having stanchions 3' 6" high and 4' 3" apart. with 3 rods on each side. Port & Starboard sides of vessel.
No gangway in Fore Well.

Particulars of Freeing Arrangements.

	Total Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well 9:7 Fore Well 3:10	140' 2" 9.58	7' 6"	19" x 18"	5.	11.85. 2.37	
Forward Well 54.3 Open Bridge 72.6	53.60			2	4.74	

State position of each freeing port ... { After Well:— Forward Poop Bulk. 3". 43' 6". 68' 3". } 12" above Deck.
(F. and A. position and height above deck edge) { Forward Well:— Forward Bridge end 1' 11". 34' 6". }
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Hinged shutter with plate strip guards.

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 ...	8/10	3/8	3" x 3" x 3/8 A.	2' 3"	✓	5' 5" x 3' 6"	9"	7' 6"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ...	open.							
Bridge, Forward Bulkhead ...	open.							
Forecastle Bulkhead ...	3/8	5/16	3" x 2 1/2" x 3/16 A.	not more 2' 6"	✓	5' 1 1/2" x 2' 1 1/2"	12"	7' 6"
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Free-board or Raised Quarter Deck ...	3/8	3/8	S.C. 3" x 2 1/2" x 3/16 A.	4' 3"	✓	4' 10" x 2' 0"	15"	7' 6"
Exposed Machinery Casings on Super-structure Decks ...	"	"	S.C. Solid 3" x 1 1/2"	2' 5"	✓	5' 3" x 2' 0"	15"	7' 6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...					Brackets to Casing Top.			
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead ...	2 hinged steel doors 5' 5" x 3' 6". fastened outside with 3 dogs. 2 at side. 1 at top.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ...	open
Bridge, Forward Bulkhead ...	open
Forecastle Bulkhead ...	2 Teak doors 5' 1 1/2" x 2' 1 1/2". 1 1/2" frames. 5/8" panels. manipulated both sides.
Exposed Machinery Casings on Free-board or Raised Quarter Deck ...	6. Steel doors in halves. 4' 10" x 2' 0". 5 bolted inside. 1. Door only to Engine Room on port side, manipulated both sides.
Exposed Machinery Casings on Super-structure Decks ...	6. Steel doors in halves 5' 3" x 2' 0". 5 bolted inside. 1. Door only to Engine Room on port side, manipulated both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	8 opening Ports 9" diam. into C. casing. 3' 3" x 5' 6" from top.
Deckhouses on Flush Deck Ships ...	

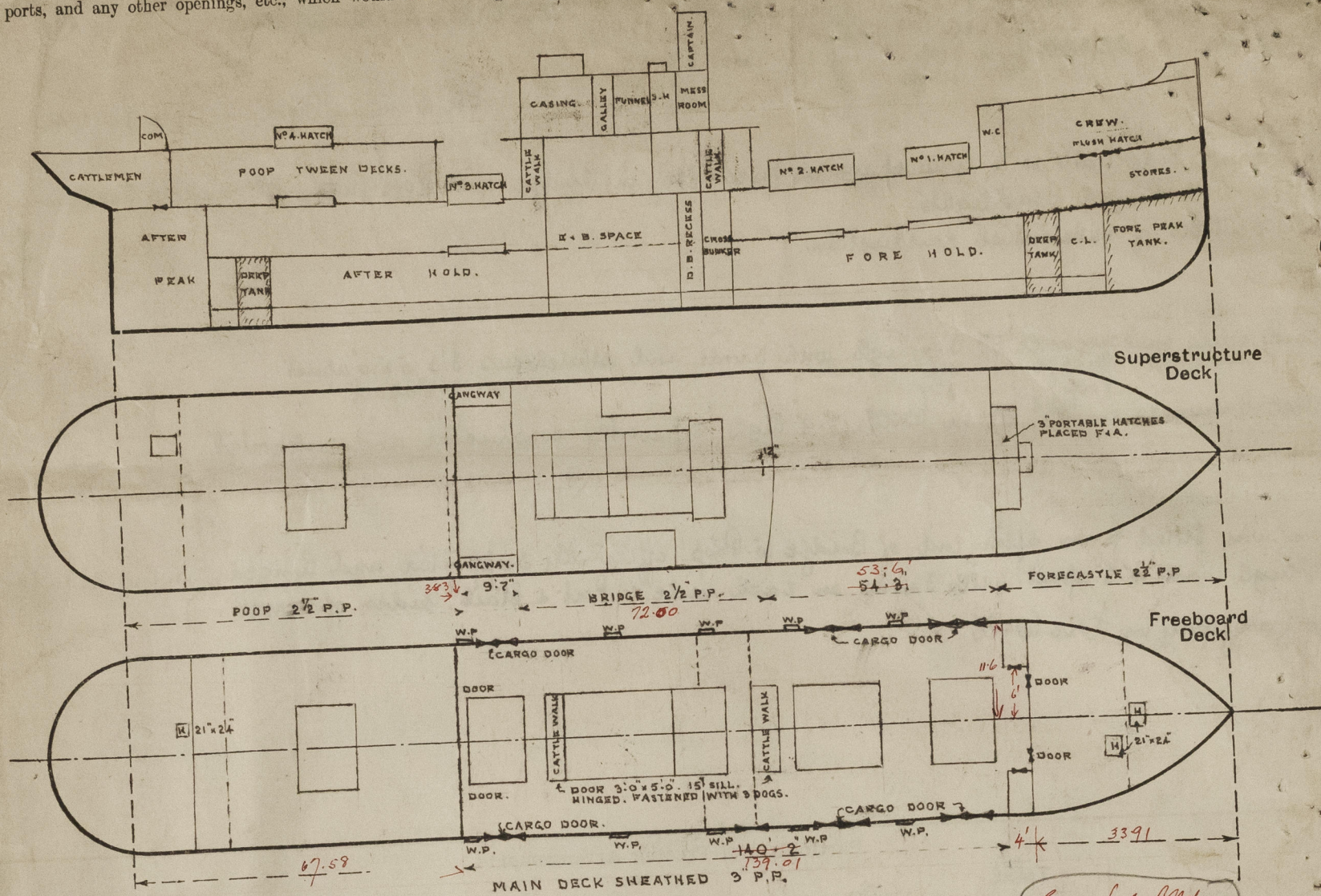


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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship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



Equn. for B.H. 37.91 - 13.2 = 24.71
23.2
= 37.91 - 2.07 = 35.84

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

This vessel is intended for local Coasting Trade. (Liverpool & Belfast)
Timber Freeboard not required.
Vessel surveyed afloat for Freeboard purposes only.

SANITARY DISCHARGE PIPES.

W.C. Discharge from Crews W.C. in Forecastle. 5" dia. (2) fitted with non return valve at ships side 5'6" below Freeboard Dk.
W.C. Discharge from Officers W.C. on Bridge 3" dia. fitted with non return valve at ships side 3'6" below Freeboard Dk.
Pantry Discharge from Bridge 2 1/2" dia. fitted with non return valve at ships side 3'6" below Freeboard Dk.

Builder's name and yard number. Wm. Beardmore & Co. Ltd. Yard No. 613.

Names of sister ships

Owners Belfast Steam Ship Co. Ltd. Belfast.

Fee £ 8 : 10 : 0.

Received by me



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