

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having FORECASTLE AND RAISED DECK

Port of Survey NEWCASTLE ON TYNE

(Type of Superstructures.)

Date of Survey 20.5.32

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
LETCHWORTH.	BRITISH. NEWCASTLE.	48085	1317	1924-9

Name of Surveyor John A. Dawson

Moulded Dimensions: Length 234.66 Breadth 35.50 Depth 16.79
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 2598 tons
 Coefficient of fineness for use with Tables .765

Particulars of Classification +100.A.1

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth 16.79	(a) Where D is greater than Table depth (D-Table depth) R = (16.84 - 15.65) 1.805 = + 2.15	Moulded Breadth (B) 35.5
Stringer plate ... .. .05	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 8.52$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 9.00
Depth for Freeboard (D) = 16.84		Difference = .49
		Restricted to 2596
		Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.48}{4} (1 - .765) = .03$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	✓				
" overhang					
R.Q.D. enclosed	147.0	147.00	3'-10"	1.83	144.36
" overhang	✓				
Bridge enclosed	✓				
" overhang aft	✓				
" overhang forward	✓				
F'cle enclosed	25.76	25.76	7'-0"	✓	25.76
" overhang	1.74	.94			.99
Trunk aft	✓				
" forward	✓				
Tonnage opening aft	✓				
" " forward	✓				
Total	174.70	173.73			171.09

Standard Height of Superstructure	6.0'
" " R.Q.D.	3.9'
Deduction for complete superstructure	29.47
Percentage covered $\frac{S}{L} =$	74.46%
" " $\frac{S_1}{L} =$	74.04%
" " $\frac{E}{L} =$	72.91%
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	66.58%
Interpolation for bridge less than 2L (if required)	
Deduction = 29.47 x .6658 =	19.62

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	33.47	1		33.47	30	30.00	1		30.00
$\frac{1}{2}$ L from A.P.	14.89	4		59.56	134	13.03	4		52.12
$\frac{2}{3}$ L "	3.69	2		7.38	34	3.25	2		6.50
Amidships	-	4		-	-	-	4		-
$\frac{2}{3}$ L from F.P.	7.38	2		14.76	74	7.80	2		15.60
$\frac{1}{2}$ L "	29.78	4		119.12	314	31.23	4		124.92
F.P.	66.94	1		66.94	72	72.00	1		72.00
Total				301.23					301.34

Mean actual sheer aft = 1.11
 Mean standard sheer aft = 1.11

S	M	Product	S	M	Product
33.47	30.00	1	33.47	30.00	
14.89	13.03	3	14.89	13.03	3
3.69	3.25	3	3.69	3.25	3
-	-	1	-	-	1
			89.21	75.84	

Mean actual sheer forward = 1.11
 Mean standard sheer forward = 1.11

Length of enclosed superstructure forward of amidships = 126.4
 " " aft of " = 30

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - \frac{S}{2L}}{.75 - \frac{S}{2L}} \right) = \frac{.11}{18} \left(\frac{.75 - .3723}{.75 - .3723} \right) = - \text{Nil}$

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 = 20.67
 Summer freeboard = 4.98
 Moulded draught (d) = 15.69

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 3.92

Addition for Winter North Atlantic Freeboard (if required) = 4.42 = 6.4

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 2905$

Tons per inch immersion at summer load water line

T = 17.06

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

= 4.25 = 4.4

NO PARTICULARS AS BOARD.

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.765 + .68}{1.36} = \frac{1.445}{1.36} = 29.34$

Depth Correction 2.15

Deduction for superstructures 19.62

Sheer correction03

Round of Beam correction03

Correction for Thickness of Deck amidships03

Other corrections, scantlings, etc. 46.00

Summer Freeboard = 59.64

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

Tropical Fresh Water Line above Centre of Disc	8.4
Fresh Water Line	4.4
Tropical Line	4.4
Winter Line below	4.4
Winter North Atlantic Line	6.4

Tropical Fresh Water Freeboard	4.32
Fresh Water	4.72
Tropical	4.72
Winter	3.34
Winter North Atlantic	5.34

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	Nº 1	Nº 2	Nº 3	Nº 4	COAL HATCH	HATCH TO STORE BOARD	ESCAPE HATCHES.
Dimensions of Hatchway	...	...	23'0 1/2"	24'1 1/2"	25'10 1/2"	25'10 1/2"	4'10" x 12'5"	2'0" x 2'4"	2'3" x 2'6"
COAMINGS	Height above Deck	...	42	42	51	51	9'8A	3'1L	30"
	Thickness	{ Sides	44	44	44	44			30"
		{ Ends							ON WINCH
	Stiffeners	...	7'8A	7'8A	7'8A	7'8A			PLATFORMS.
	Brackets, Stays	...	2	3	3	3			1 FOR 1 AFT.
HATCH BEAMS	Number	...	4	4	4	4			
	Spacing	...	4'7"	5'1"	5'2"	5'2"			
	Scantling and Sketch	...	19 1/2 x 38	19 1/2 x 38	20 x 38	20 x 38			
	Bearing Surface	...	3 1/2	3 1/2	3 1/2	3 1/2			
FORE AND AFTERS	Number	...							
	Spacing	...							
	Unsupported Lengths	...							
	Scantling* and Sketch	...							
	Bearing Surface	...							
HATCH COVERS	Material	...	WP	WP	WP	WP	WP	W.P.	W.P.
	Thickness	...	3"	3"	3"	3"	2 1/2"	2 1/2"	3"
	How fitted	...	F.A.	F.A.	F.A.	F.A.	F.A.		
	Bearing Surface	...	3'5"	3'5"	3'5"	3'5"	3"	3"	3"
Spacing of Cleats	...	...	24	21-24	24	24	23	14	14
Number of Tarpaulins	...	...	2	2	2	2	2	2	2
*Are wood fore and afters steel shod at all bearing surfaces? <input checked="" type="checkbox"/> Are battens and wedges efficient and in good condition? <input checked="" type="checkbox"/> Are tarpaulins in good condition and in accordance with rule requirements? <input checked="" type="checkbox"/> Are lashings provided in accordance with rule requirements? <input checked="" type="checkbox"/>									

Particulars of fiddle, funnel and ventilator coamings:— FIDDLE GRATINGS COVERED BY STRONG STEEL HINGE COVERS. (HINGES BROKEN)
 FUNNEL AND FIDDLE VENTS IN EFFICIENT CONDITION.
 ENGINE SKYLIGHT OF STEEL STRONGLY CONSTRUCTED.

Particulars of Flush Bunker Scuttles:— NONE.

Particulars of Companionways:— NONE.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 FORE WELL: 2 VENTS 15" DIA. COAMING 36" x 36 TO HOLD. VENTS ARE CONSTRUCTED IN ACCORDANCE
 AFT WELL: 2 " 15 " " 36 " x 36 " WITH RULES AND HAVE WOOD PLUGS AND
 2 " 7 1/2 " " 36 " x 36 TO COAL SKY. CANVAS COVERS.
 4 " 6 " " (15) " x 36 TO CABIN.
 2 G.N. VENTS. 3" DIA. 34" HIGH. TO AIR SPACE AT R.Q.D. DECK. (NO MEANS OF CLOSING)

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 FORE WELL: 2 AIR PIPES 2" DIA. x 33" HIGH TO D.B. TANKS. EFFICIENT
 AFT WELL: 4 " 2" " x 34" " TO D.B. TANKS. NO MEANS OF CLOSING. PROVIDER. 36"
 2 " 3" " x 34" " TO DEEP TANK. opening - 36"
 2 " 2" " x 36" " TO D.B. TANKS. FORE PEAK AIR PIPE COMES OUT ABOVE D"
 1 " 5" " x 31" " TO A.P. THRO PLE BND NO VALVE ON OUTER END OR MEANS
 OF CLOSING.

Particulars of Gangway Cargo and Coaling Ports:— NONE



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 Foundation

Particulars of Scuppers and Sanitary Discharge Pipes — LAVATORY DISCHARGES ABOVE & BELOW FDP HAVE STRONG STEEL STORM VALVES
FITTED ON SHIPS SIDE. ✓

RETAIN

Particulars of Side Scuttles: SIDE SCUTTLES ABOVE FDP DECK TO CREW SPACE HAVE STRONG HINGED DEADLIGHTS. ✓
" " " " AFT HAVE STRONG HINGED DEADLIGHTS. ✓
ALL SCUTTLES OF SUBSTANTIAL CONSTRUCTION. (GLASSES BROKEN IN PLACES AFT)

Particulars of Guard Rails:— FORECASTLE DECK 3 TIER. 3'-4" HIGH. STANCHIONS SPACED 4'-6" APART. ✓

Particulars of Gangways, Lifelines, etc.:— ~~NONE FITTED~~ (CREW FORWARD : ENGINEERS AFT)

Lifelines for the protection of the crew fitted in the Fore Well

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	¹⁴⁷ 138'-0"	3'-6"	SLOTS. 6" DEEP. 77'-6" x 6" 21'-0" x 6"	1 OFF EACH	49.25 ✓	29.4 ϕ
Forward Well	59.96'	4'-0"	34'-9" x 8"	1 OFF.	25.25 23.14.	12.496 ϕ
State position of each freeing port } After Well:— 8" ABOVE DECK (E. and A. position and height above deck edge) } Forward Well:— 12" ABOVE DECK State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— NO SHUTTERS OR 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	✓							
Raised Quarter Deck Bulkhead ...	36"	36"	11.3/2 x 6.0 Bca INACCESSIBLE	24" x 32"	As at top INACCESSIBLE	BOLTED MANHOLES.	—	—
Bridge, After Bulkhead	✓							
Bridge, Forward Bulkhead	✓							
Forecastle Bulkhead	—	26" ✓	2 1/2" x 2 1/2" x 26"	30" x 45" ✓	—	4'-6" x 22" ✓	18" ✓	—
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	44" B.C. 36" E.C. ✓	38" ✓ 32" ✓	4 x 3 x 30" ✓	27" B.C. 30" E.C. ✓	—	4'-6" x 22" ✓	22" ✓	7'-0" ✓
Exposed Machinery Casings on Super- structure Decks	—							
Machinery Casings within Superstruc- tures 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	—
Raised Quarter Deck Bulkhead ...	STEEL BOLTED PLATES. SPACED W.T. PITCH. (ABOUT 3") ✓
Bridge, After Bulkhead	—
Bridge, Forward Bulkhead	—
Forecastle Bulkhead	ORDY ST. HGD DOORS ✓
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	ORDY ST. HGD DOORS: BOTH SIDES
Exposed Machinery Casings on Super- structure Decks	ORDY ST. HGD DOORS: BOTH SIDES
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	—
Deckhouses on Flush Deck Ships ...	—

Lechwardt

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 24.95
 + 12.5 + 2.75 : -81
 15.25
 25.76
27.7
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RULE 90 HAND STEERING GEAR AFT OVER QUADRANT (PROTECTED BY CASING + SIDE HOUSES)
STEERING GEAR AMIDSHIPS. ROD TO STEERING ENGINE LED ALONGSIDE HATCH P'SIDE
UNDER HATCH STAYS.

2
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