

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

-6 MAY 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Poop, Bridge, Newcastle

Port of Survey Newcastle-on-Tyne

Heleni D

(Type of Superstructures.)

Date of Survey 4th May 1932

Ship's Name

Nationality and Port of Official Number Gross Tonnage Date of Build

Name of Surveyor John A. Lawson

Moulded Dimensions: Length 399.4' Breadth 52.00' Depth 31.00'
Moulded displacement at moulded draught = 85 per cent. of moulded depth
Coefficient of fineness for use with Tables .775

Particulars of Classification +100 A1

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... 31.00	(a) Where D is greater than Table depth (D-Table depth) R = (31.04-26.65) 3 + 13.17	Moulded Breadth (B) 52.00
Stringer plate ... .04	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 12.48$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures -	Ship's Round of Beam = 13
Depth for Freeboard (D) = 31.04		Difference Guess 52
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{52}{4} \left(1 - \frac{50.43}{52} \right) = 1.06$

DEDUCTION FOR SUPERSTRUCTURES.

Standard Height of Superstructure 7.5

" " R.Q.D. 41.98

Deduction for complete superstructure

Percentage covered $\frac{S}{L} = 50.52$

" " $\frac{S_1}{L} = 50.43$

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

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

Percentage from Table, Line B. 36.43 (corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $41.98 \times 36.43 = 15.29$

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	49.0	49.25	7.11		49.25
overhang ...					
R.Q.D. enclosed ...					
overhang ...	111.30	111.30	7.11		111.30
Bridge enclosed ...	112.8	111.30			1.03
overhang aft ...	1.37	1.03			
overhang forward ...	40.0	40.00	7.11		40.00
enclosed ...	40.0				
overhang ...					
enclosed ...					
forward ...					
Tonnage opening aft ...					
forward ...					
Total ...	201.92	201.58			201.58

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	49.97	1	49.97	59.2	59.50	1	59.50
1/4 L from A.P. ...	22.24	4	88.96	26.34	26.86	4	107.44
1/2 L " ...	5.50	2	11.00	6.34	6.71	2	12.42
Amidships ...	-	4	-	-	-	4	-
3/4 L from F.P. ...	10.96	2	21.92	13.34	13.33	2	26.66
3/4 L " ...	44.48	4	177.92	53	53.33	4	213.32
F.P. ...	49.94	1	49.94	120	120.00	1	120.00
Total ...			449.71				539.34

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{89.63}{18} \left(\frac{75-2526}{4974} \right) = -2.48$

If limited on account of midship superstructure.

Mean actual sheer aft = Guess

Mean actual sheer forward = Guess

Length of enclosed superstructure forward of amidships = 15

" " aft of " = 13

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 31.04

Summer freeboard = 5.98

Moulded draught (d) = 25.06

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.27

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 11426$

Tons per inch immersion at summer load water line

T = 41.72

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

= 6.85

40 tons at 25' 9 1/2" draft

6 3/4

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{775+68}{1.36} = \frac{1.455}{1.36}$

+ -

Depth Correction ... 13.17

Deduction for superstructures ... 15.29

Sheer correction ... 2.48

Round of Beam correction06

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

13.17 17.83 4.66

Summer Freeboard = 71.7

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

Tropical Fresh Water Line above Centre of Disc ... 33.0 13"

Fresh Water Line ... 17.1 6 3/4"

Tropical Line ... 15.9 6 1/4"

Winter Line below ... 15.9 6 1/4"

Winter North Atlantic Line ...

Tropical Fresh Water Freeboard ... 5' 11 3/4"

Fresh Water ... 4' 10 3/4"

Tropical ... 5' 5"

Winter ... 5' 5"

Winter North Atlantic ... 6' 6"

10 MAY 1932

10-1-231

29 MAY 1932

28 JUL 1933

MAY 1932

Helmi D

Particulars of fiddle, funnel and ventilator coamings:— Fiddle Gatings covered by strong steel brags covers. ✓
Funnel Fiddle vents in efficient condition. ✓
Sightlight of steel of strong construction. ✓

Particulars of Companionways :— NONE.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :-				BRIDGE DECK	
FEED DECK	1 VENT.	8' DIA	GAMING 24" x 30" TO STORE.	2 VENTS	17 1/2" DIA x 36" x 36" TO HOLD
	1 "	17 1/2 "	36" x 36" TO HOLD.	2 DERRICK POSTS	TO L ^{ft} TW DECK BARS.
FOR ^W WELL.	6 "	17 1/2 "	36" x 36" TO HOLD.	2 G.N. VENTS.	21" TO LIP x 5 1/2" DIA TO T.D BARS.
AFT WELL.	6 "	17 1/2 "	36" x 36" TO HOLD.		
POOP DECK	2 "	17 1/2 "	34" x 36" TO HOLD	all vents are constructed in accordance with rules and have wtrt plug covers.	
	1 "	11 "	ABOVE WOOD DECK 26" x 30" TO TUNNEL.		

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—									
Fore Dk.	1	M-1	4" DIA ²	24"	To LIP	To	F. PEAK.		
	1	M-1	2½"	7"	"	9'	To BEND	2½" DIA ²	To D.B. TANK.
Fore Well.	2		2½"	9" 36"	10½"	"	"	2½"	" " " "
Aft Well.	2		2½"	6" 36"	8"	"	"	2½"	" " " "
Br. Dk.	2		2½"	8"	10"	"	"	2½"	" " " "
	4		2½"	7"	9"	"	"	2½"	" " " "

air pipes have no masts holes
and have no fittings of following
not canvas covers.

NONE.

Particulars of Gangways, Lifelines, etc.:— ~~no gangways nor lifelines provided~~
Lifelines for the protection of the crew are provided in the after well.

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 ... ..	.44 ✓	.40 ✓	6 x 3 x 1/2 ✓	30 ✓	—	4'-4" x 2'-0" ✓	24" ✓	
Raised Quarter Deck Bulkhead ...	—							
Bridge, After Bulkhead ... ..	.38 ✓	.30 ✓	6" x 3 1/2" = .44 L 3 x 3 = .30 ✓	54" IN SIDE HOUSE, — 44 AT SIDE DECK —		5'-0" x 3'-0" ✓	24" ✓	
Bridge, Forward Bulkhead ... ..	.44 ✓	.40 ✓	10 x 3 1/2 = 1/2 BA ✓	30 ✓	BKTS TOP, BRT. ✓	—	—	
Forecastle Bulkhead ... ..	.24 ✓	.24 ✓	3 x 3 x .28 ✓	36 ✓	4'-0" x 3'-0" ✓ 4'-6" x 2'-0" (ST) ✓	—	22" ✓	
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	.38 ✓	.30 ✓	3 x 3 = .30 ✓ 3 1/2 x 3 1/2 = .40 ✓	36" ST. GR. SIDE CAS. ✓	—	DOOR TO ER IN RECESS PS 4'-6" x 2'-0" 20" SILL (ST) ✓		
Exposed Machinery Casings on Superstructure Decks ... ..	.40 ✓	.36 ✓	3 1/2 x 3 1/2 = .40 ✓ 3 x 3 = .36 ✓	30" ✓ 31 FARE END CASING ✓		4'-3" x 2'-0" ✓	20" ✓	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	.40 ✓	.36 ✓	3 1/2 x 3 1/2 = .40 ✓	32" ✓ 27" ✓	—	1'-11" x 2'-3" SL DOOR ✓ 4'-3" x 2'-0" ✓	24" ✓ 20" ✓	
Deckhouses on Flush Deck Ships ...	✓							

Poop Bulkhead	...	...	Ordinary Steel Rigo doors to crew space ✓ Horses. Operated both sides ✓
Raised Quarter Deck Bulkhead	...	...	—
Bridge, After Bulkhead	...	...	3" battens in rivetted channels full height. ✓ Ord steel Rigo door to Eng. Room. op. both sides. ✓
Bridge, Forward Bulkhead	...	...	—
Forecastle Bulkhead	...	...	Ord. Stl Rigo doors to Side Horses. ✓ 3" battens in rivetted channels full height S Side ✓ ^{Opening} Ord. wood Rigo door 12" thick op. one side to P. Side. (in Foremast)
Exposed Machinery Casings on Fore- ward or Raised Quarter Decks	...	...	Ord Rigo steel doors to Engine Room (P.S.) ✓ ^{operated from both sides}
Exposed Machinery Casings on Super- structure Decks	...	...	^{operated both sides} Ord steel Rigo doors to B. casing. Port side op. both sides. ✓ Starboard side no means of fastening.
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	...	...	Ord. Steel Rigo doors to Liddell. op. one side only. ✓ Sliding door to Donkey Boiler flat. op. one side only. ✓
Decks on Flush Deck Ships	...	...	—

