

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

-5 JUL 1932

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
having Raised Quarter Deck, Bridge & Forecastle

Port of Survey Newcastle-on-Tyne

Date of Survey 1st July 1932

Name of Surveyor Alex. E. Stevenson

Particulars of Classification + 100 A.1.
S.S. Reg. No. 2-27

Ship's Name Ragmu (Type of Superstructures.)
EBCHESTER

Nationality and Port of Registry British
Newcastle-on-Tyne

Official Number 145734

Gross Tonnage 1286

Date of Build 1919

Moulded Dimensions: Length 229.5 Breadth 35.5 Depth 17.62

Moulded displacement at moulded draught = 85 per cent. of moulded depth 2648 tons

Coefficient of fineness for use with Tables .757

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	17.62	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	35.5
Stringer plate	.04	(17.66 - 15.27) 1761 = + 421		Standard Round of Beam = $\frac{B \times 12}{50}$	8.55
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	7.4
T $\left(\frac{L-S}{L}\right) =$				Difference	1.30
Depth for Freeboard (D) =	17.66	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff.}}{4} \times \left(1 - \frac{S_1}{L}\right)$	$\frac{1.30}{4} (1 - .6484) = + .11$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure <u>6.0</u>
" overhang ...						" " R.Q.D. <u>3.860</u>
R.Q.D. enclosed ...	79.0	79.00	3'-10 1/2"		79.00	Deduction for complete superstructure <u>28.90</u>
" overhang ...						Percentage covered $\frac{S}{L} =$ <u>67.46</u>
Bridge enclosed ...	48.0	43.20	7'-0"		43.20	" " $\frac{S_1}{L} =$ <u>64.84</u>
" overhang aft ...	2.75					" " $\frac{E}{L} =$ <u>64.84</u>
" overhang forward ...						Percentage from Table, Line A.
F'cle enclosed ... side	27.5	25.04	7'-6" to top of deck		25.04	(corrected for absence of forecastle (if required)) <u>54.23</u>
" overhang ...	2.504	1.23	Composition		1.23	Percentage from Table, Line B.
Trunk aft ...	2.46					(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction = <u>28.90 + 54.23 = -15.67</u>
" " forward						
Total ...	154.50	148.47			148.47	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	32.90	1		32.90	37.2	49.0	1		49.00	Mean actual sheer aft = <u>Success</u>
1/4 L from A.P. ...	14.64	4		58.56	13.2	23.3	4		93.20	Mean actual sheer forward = <u>Success</u>
1/2 L " ...	3.62	2		7.24	1	5.81	2		11.62	Mean standard sheer aft = <u>Success</u>
Amidships ...		4					4			Mean standard sheer forward = <u>Success</u>
3/4 L from F.P. ...	7.24	2		14.48	6	8.47	2		16.94	Length of enclosed superstructure forward of amidships = <u>.055</u>
1/4 L " ...	29.28	4		117.12	30	33.97	4		135.88	" " aft of " = <u>.500</u>
F.P. ...	65.80	1		65.80	76	82.0	1		82.00	
Total ...				296.10					388.64	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L}\right) = \frac{92.54}{18} (75 - 33.73) = -2.12$

If limited on account of midship superstructure. $2.12 + \frac{.155}{2} = -1.64$

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.		Deduction for Fresh Water.		TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line		Correction for coefficient	$\frac{.757 + .68}{1.36} = \frac{1.437}{1.36}$
Depth to Freeboard Deck = <u>17.66</u>		Δ =		Depth Correction ...	4.21
Summer freeboard = <u>1.42</u>		Tons per inch immersion at summer load water line		Deduction for superstructures ...	15.67
Moulded draught (d) = <u>16.24</u>		T =		Sheer correction ...	1.64
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>4.06</u> = <u>4"</u>		Deduction = $\frac{\Delta}{40 T}$ inches = <u>4"</u>		Round of Beam correction11
Addition for Winter North Atlantic Freeboard (if required) = <u>2"</u>				Correction for Thickness of Deck amidships ...	
				Other corrections, scantlings, etc. ...	
				432 17.31 - 12.99	
				Summer Freeboard = <u>16.92</u>	

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

Tropical Fresh Water Line above Centre of Disc ...	8"	Tropical Fresh Water Freeboard ...	0-9"
Fresh Water Line " " ...	4"	Fresh Water " " ...	1-1
Tropical Line " " ...	4"	Tropical " " ...	1-1
Winter Line below " " ...	4"	Winter " " ...	1-1
Winter North Atlantic Line " " ...	6"	Winter North Atlantic " " ...	1-1

Exchester.

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles:—

none

Particulars of Companionways :—

none

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

On Freebd. dk forward. 1 off 15" dia coming '38", carried 133 above f'cle dk, & supported at f'cle dk. led to hold.

1 - 15" " 36"x38" lcd to hold

R.A.D. 2 15 " 36 r 38 " " "

" " 1 " 6" " 36" x 40 " " Tunnel.

Ventilators constructed in accordance with rules.

Coamings closed with wood plugs & canvas covers.

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

Gr. F'de dk. 1 C.I. gooseneck. 2" dia x 6" h opening. from double bottom.

Fr. H. 2" 2" x 31" " " " "

on Fred's " 2" " " 2" " " 2" " " 2" " "

~~no closing appliances~~

Canva Conus provided

Particulars of Gangway Cargo and Coaling Ports:—

none

Particulars of Scuppers and Sanitary Discharge Pipes —

W.C. in Side Port side, discharging through Side side with m.c.l. storm valve.

Particulars of Side Scuttles :

Sidr scuttles in file. with ringed deadlights.

Particulars of Guard Rails :—

steel bulwarks on foreboard deck in well 4'-6 1/2" high, on Raised quarter deck 3'-7" high & on fore end of Bridge deck 3'-0" high, efficiently constructed & supported.

Guard rails on forecastle 2'-11" high, having 3 rods & stanchions spaced 4'-9" apart.

Particulars of Gangways, Lifelines, etc. :—

none. (crew in file)

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 R.Q.D. ...	76'-3"	3'-7"	1'-11" x 1'-4"	3	7.66 sq	15.25
Forward Well ...	75'-0"	4'-6 1/2"	2'-4" x 1'-10"	4	17.11 sq	15.00

State position of each freeing port ... { After Well:— 2'-0", 33'-6" & 57'-0" from Bridge overhead.
(F. and A. position and height above deck edge) { Forward Well:— 6'-3", 23'-6", 41'-6" & 62'-6" from Bridge overhead.
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— in for well, 3 horizontal rods 6" apart.
an R.Q.D. 1 horiz. rod on all ports. & 2 P.T.s fitted with hinged steel shutter.

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 } ..	26"	32	6" x 3 BA. b. R.A.P.	30"	-	-	-	3'-10 1/2"
Bridge, After Bulkhead ... }			5, 3 frame-space brackets below R.A.P. 2 diaphragm plates					7'-0"
Bridge, Forward Bulkhead	38"	34	7" x 3 BA.	30"	brackets w/ plates	4'-0" x 3'-0" (2)	24"	7'-0"
Forecastle Bulkhead	-	25	not accessible.			5'-0" x 2'-0" (3)	18"	7'-4"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks	32"	28	3" x 3" x 34"	40"	-	B.R. 5'-0" x 2'-0" E.R. 5'-0" x 2'-2"	18"	7'-4"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	32	28	3" x 3" x 30"	32"	-	2'-0" x 1'-8"	4'-6"	7'-0"
Deckhouses on Flush Deck Ships ...								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Peop Bulkhead	
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	Portable steel plates, secured by hook bolts 14" apart, passing thru portable plates. <i>Shore board in riveted channels to full height of op</i>
Forecastle Bulkhead	Centre & Port side, Hinged solid wood doors (1 1/2" thick), secured both sides by lock & handle.
Exposed Machinery Casings on Free-board or Raised Quarter Decks	Starboard side. Hinged steel door, secured both sides by lock & handle
Exposed Machinery Casings on Superstructure Decks	To Boiler Room, Hinged steel doors, Port side secured by bolt on inside, Starboard side no efficient closing appliance.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	To Engine Room: Hinged wood doors (1 1/2" from 2 panels) secured both sides by lock & handle (Protected by covers in alleyway)
Deckhouses on Flush Deck Ships	Hinged steel doors, secured on inside by clip on casing side.

Hand-drawn plan view of the ship 'L' (L'Esperanza) showing the layout of the Superstructure Deck and Freeboard Deck. The ship is 229.5 feet long.

Superstructure Deck:

- R.Q.D. (Radio Quarter Deck):** Located at the bow, containing N°4 hatch and N°3 hatch.
- BRIDGE:** Located aft of the R.Q.D., containing ER, galley, cool, BR, and various accommodation (accom) spaces.
- air pipe on R.Q.D. under Bridge overhang**
- air pipes** (marked with 'x')
- Superstructure Deck** (marked with 'x')
- 2" composition** (marked with 'x')

Freeboard Deck:

- CREW:** Located at the stern, containing N°1 hatch and N°2 hatch.
- Trimming hatches to hold** (marked with 'x')
- store hatch** (marked with 'x')
- Freeboard Deck** (marked with 'x')

Dimensions:

- Overall length: 229.5'
- Superstructure Deck length: 76.25' + 50.75' + 75.0' + 27.5' = 229.5'
- Freeboard Deck length: 79.0' + 48.0' + 27.5' = 154.5'

$$\begin{aligned}
 & 27.5 - \frac{3.83 \times 18}{28} \\
 &= 27.5 - 2.46 \\
 &= 25.04
 \end{aligned}$$

Timber assignment not required.

Vessel surveyed in dry dock, whilst undergoing damage repairs
& part special Survey No 3.

Names of sister ships

Owners

W. Dickinson & Co. Ltd.

Fee £ 8 : 10 : 0

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