

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Raised quarter, bridge and forecastle decks.

(Type of Superstructures.)

Port of Survey Malmö

Date of Survey 9/4 - 17/4, 1932.

Name of Surveyor Adundin

Particulars of Classification 10091

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>s/s "BORE"</u>	<u>Swedish Stockholm.</u>	<u>5167</u>	<u>1216</u>	<u>1910-10mo.</u>

Moulded Dimensions: Length 229.4 Breadth 35.75 Depth 17.63

Moulded displacement at moulded draught = 85 per cent. of moulded depth 2605 tons

Coefficient of fineness for use with Tables .745

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <u>17.63</u>	(a) Where D is greater than Table depth (D - Table depth) R = $(17.66 - 15.29) \cdot 1.764 = +4.18$	Moulded Breadth (B) <u>35.75</u>
Stringer plate ... <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 8.55$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>8.75</u>
Depth for Freeboard (D) = <u>17.67</u>		Difference <u>.250</u>
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.25}{4} (1 - .6737) = -.01$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S) F.T.	Equivalent Enclosed Length (S ₁)	Height F.T.	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...	<u>83.0</u>	<u>83.0</u>	<u>3.87</u>		<u>83.00</u>
" overhang ...					
Bridge enclosed ...	<u>49.84</u>	<u>44.86</u>	<u>7.00</u>		<u>44.86</u>
" overhang aft ...	<u>2.</u>				
" overhang forward ...					
Fore enclosed ...	<u>25.01</u>	<u>25.01</u>	<u>7.25</u>		<u>25.01</u>
" overhang ...	<u>3.05</u>	<u>1.52</u>			<u>1.52</u>
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	<u>160.90</u>	<u>154.39</u>			<u>154.39</u>

Standard Height of Superstructure	<u>6.00</u>
" " R.Q.D.	<u>3.863</u>
Deduction for complete superstructure	<u>28.94</u>
Percentage covered $\frac{S}{L} =$	<u>70.10</u>
" " $\frac{S_1}{L} =$	<u>67.30</u>
" " $\frac{E}{L} =$	<u>67.30</u>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	<u>58.41</u>
Interpolation for bridge less than 2L (if required)	
Deduction =	<u>.5841 x 28.94 = -16.91</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>32.94</u>	1		<u>32.94</u>	<u>39</u>	<u>39.00</u>	1		<u>39.00</u>
1/4 L from A.P. ...	<u>14.66</u>	4		<u>58.64</u>	<u>17</u>	<u>16.98</u>	4		<u>67.92</u>
1/2 L " ...	<u>3.62</u>	2		<u>7.24</u>	<u>4</u>	<u>4.23</u>	2		<u>8.46</u>
Amidships ...		4					4		
3/4 L from F.P. ...	<u>7.25</u>	2		<u>14.50</u>	<u>8.5</u>	<u>8.57</u>	2		<u>17.14</u>
1/4 L " ...	<u>29.32</u>	4		<u>117.28</u>	<u>34</u>	<u>34.36</u>	4		<u>137.44</u>
F.P. ...	<u>65.88</u>	1		<u>65.88</u>	<u>79</u>	<u>79.00</u>	1		<u>79.00</u>
Total ...				<u>296.48</u>					<u>348.96</u>

Mean actual sheer aft = Even

Mean standard sheer aft = Even

Mean actual sheer forward = Even

Mean standard sheer forward = Even

Length of enclosed superstructure forward of amidships = .079

" " aft of " = .50

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{52.48}{18} \left(.75 - .3505 \right) = -1.16$

If limited on account of midship superstructure. $\frac{179}{200} \times 1.16 = -1.04$

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 $\frac{.745 + .68}{1.36} =$
Depth to Freeboard Deck = <u>17.66</u>	$\Delta =$	Depth Correction ... <u>4.18</u>
Summer freeboard = <u>1.33</u>	Tons per inch immersion at summer load water line	Deduction for superstructures ... <u>16.91</u>
Moulded draught (d) = <u>16.33</u>	T =	Sheer correction ... <u>1.04</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>4.08</u>	Deduction = $\frac{\Delta}{40T}$ inches = <u>4.08</u>	Round of Beam correction ... <u>.02</u>
ion for Winter North Atlantic Freeboard (if required) = <u>2"</u>		Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ...
		Summer Freeboard = <u>15.97</u>

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

Tropical Fresh Water Line above Centre of Disc ... <u>8.16</u> = <u>208</u>	Tropical Fresh Water Freeboard ... <u>7.81</u> = <u>198</u>
Fresh Water Line " " ... <u>4.08</u> = <u>104</u>	Fresh Water " " ... <u>11.89</u> = <u>302</u>
Tropical Line " " ... <u>4.08</u> = <u>104</u>	Tropical " " ... <u>11.89</u> = <u>302</u>
Winter Line below " " ... <u>4.08</u> = <u>104</u>	Winter " " ... <u>20.05</u> = <u>510</u>
Winter North Atlantic Line " " ... <u>6.08</u> = <u>154</u>	Winter North Atlantic " " ... <u>22.05</u> = <u>560</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	Freeboard dk. No. 1	R.Q. dk. No. 2	Freeboard dk. No. 3 & 4	Tele. dk. Escape.	Bridge dk. Escape.	Code.			
Dimensions of Hatchway	24'-11" x 16'	24'-3" x 16'	23' x 16'	1'-6" x 1'-6"	2' x 2'-4"	1'-8" x 3'-6"			
COAMINGS	Height above Deck ... 31 1/2 Thickness44 Stiffeners40 Brackets, Stays ... None	8" B.A.	None	15" 40	9" 9" B.A. coaming	12" 36"			
HATCH BEAMS	Number ... 4 Spacing ... 4.98' Scantling and Sketch ... Bearing Surface ... 3"	4.85' Pl. 18.5-14" x .34" Angl. 3" x 3" x .40"	4.6'						
FORE AND AFTERS	Number ... Spacing ... Unsupported Lengths ... Scantling* and Sketch ... Bearing Surface ...								
HATCH COVERS	Material ... Wood Thickness ... 3" How fitted ... F & A Bearing Surface ... 3"			Hinged Still Cover .26"	Hinged Still Cover .24"	Wood 2 1/2" 2 1/2"			
Spacing of Cleats	24"			None	None	10"-24"			
Number of Tarpaulins	2			✓	✓	2			
*Are wood fore and afters steel shod at all bearing surfaces? Are battens and wedges efficient and in good condition? Are tarpaulins in good condition and in accordance with rule requirements? Are lashings provided in accordance with rule requirements?									

Particulars of fiddle, funnel and ventilator coamings:— Fiddle opening (on top of B casing) framed with 3"x3"x.32" L
 Cover plate ~~not~~ attached
 Funnel plating .20 (double)
 B. vents. D = 24" Thickness = .15" Hgt. = 12" (Supported)
 E. vents. D = 12" " = .08" " = 12"

Particulars of Flush Bunker Scuttles:— None.

Particulars of Companionways:— None.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— Tele.:- 1-7" Thicken. .32" Hgt. 15" 2-10" Thicken.:- 32" Hgt. 4"
 " 1-12" " .40" " 26"
 Bridge:- 2-12" " .40" " 23"
 R.Q. deck:- 1-12" " .32" " 36" 1 gooseneck vent 23" hgt
 No ventilators outside line of hatchways.
 Ordinary vents fitted with covers and canvas.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— On freeboard deck gooseneck air pipes
 48" high above deck without means for closing.
 On bridge and R.Q. deck air pipes flush with
 deck and fitted with brass screw plugs.
 closing appliances provided.

Particulars of Gangway Cargo and Coaling Ports:—



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Lloyd's Register
Foundation

5/8" Bore" of Stockholm.

Deck house at after end of R. Q. deck:-

A steel house, for stores, is fitted aft, but the rudder quadrant and hand steering gear are not enclosed in this house. The house is 10' in length and 9' in breadth. See also under Superstructures.

Longitudinal subdivision of D. B. tanks:-

The vessel is laid up, the tanks closed and it is not known whether any of the tanks have watertight centre girder or not.

Bulwarks:-

6" bulb angle main rail and 7" bulb plate stays connected to deck by double lugs (not all at beams) and to bulwark by single angle. The stays are spaced 5' to 6' apart.

Fittings for uprights:-

Lockets for uprights are fitted consisting of 2-3 1/2" x 3" x 40 F. & A. angles 4 1/2" between and about 18" in length. Spacing of sockets 6' to 10'.

Cope plates for lashings:-

Are not fitted but holes for shackle bolts are taken in bulwark bulb plate stays.

The steering chains and rods are carried between bulwark plating and bulwark stays on R. Q. deck.

It was impossible to obtain the dim. and scantlings of the coal hatches in the bridge space and also the dim. and spacing of bridge after end bulkhead stiffeners as the turn deck bunkers were filled with coal except at fore end.

The vessels moulded displacement at 85% of the moulded depth and the displacement in salt water at summer load water line and tons per inch immersion at that load line is not obtainable but a loading scale is enclosed.

A. Sundén