

15 DEC 1937

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having complete superstructure deck with tonnage opening aft.

Port of Survey Larvikskrona

(Type of Superstructures.)

Date of Survey White building.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
S/S "BELE"	Swedish Stockholm	8125	del 1300 1237	1937
Moulded Dimensions: Length 260.0' Breadth 37.75' Depth 16.33' to 2nd dk. 24.33' to U. dk.				
Moulded displacement at moulded draught = 85 per cent. of moulded depth 2714 tons				
Coefficient of fineness for use with Tables 697				

Name of Surveyor A. Sundén

Particulars of Classification 100 A1

(with freeboard contemplated.)

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	16.33	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	37.75
Stringer plate	0.03	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	9.06
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		(17.33 - 16.36) x 2 = - 1.94		Ship's Round of Beam	0 (U. dk. 230 mm.)
Depth for Freeboard (D) =	16.36	If restricted by superstructures	✓	Difference	Nil
				Restricted to	Nil
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	Nil

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	23.75'	23.75'	8.5'	-	23.75'
" overhang	.25'	.12'			.12'
R.Q.D. enclosed					
" overhang			Amidships		
Bridge enclosed	232.0'	232.00	8.0'	-	232.00
" overhang aft					
" overhang forward					
F'cle enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft	4.25'	2.06' = $\frac{1}{2} \times 4.25'$	8.5'		2.06
" forward					
Total	260.00	257.93			257.93

Standard Height of Superstructure 6.10

" " R.Q.D.

Deduction for complete superstructure 32

Percentage covered $\frac{S}{L} = 100.00$ " $\frac{S_1}{L} = 99.22$ " $\frac{E}{L} = 99.22$

Percentage from Table, Line A. 99.04

(corrected for absence of fore-castle (if required))

Percentage from Table, Line B.

(corrected for absence of fore-castle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 32 x .9904 = - 31.69.

SHEER CORRECTION.

Actual height of superstructure = 8.00
Standard = 6.10

Difference = 1.90 = 22.80

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	36.00	1		36.00	31.46	54.26	1		54.26
$\frac{1}{4}$ L from A.P.	16.02	4		64.08	13.2"	24.14	4		96.56
$\frac{2}{4}$ L	3.96	2		7.92	1.76"	5.92	2		11.94
Amidships	-	4		-	0	-	4		-
$\frac{3}{4}$ L from F.P.	7.92	2		15.84	10.6"	10.36	2		20.72
$\frac{1}{4}$ L	32.04	4		128.16	34.26"	41.91	4		167.64
F.P.	72.00	1		72.00	71.4"	94.20	1		94.20
Total				324.00	+22.8				445.32

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{121.32}{18} \times .25 = - 1.68$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.Depth to Freeboard Deck = 16.36
Summer freeboard = .17
Moulded draught (d) = 16.19Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4.04
Addition for Winter North Atlantic Freeboard (if required) = 6.04 = 153%

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 3224$

Tons per inch immersion at summer load water line

T = 19.50

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

= 4.13

= 105%

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{.697 + .68}{1.36} = \frac{1.377}{1.36} =$

	+	-
Depth Correction	-	1.94
Deduction for superstructures	-	31.69
Sheer correction	-	1.68
Round of Beam correction	-	-
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	-	35.31

Summer Freeboard = - 0.48

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: 50 m (limited)

Tropical Fresh Water Line above Centre of Disc	105	Tropical Fresh Water Freeboard	55
Fresh Water Line	105	Fresh Water	55
Tropical Line	Nil	Tropical	50 (limited)
Winter Line below	103	Winter	153
Winter North Atlantic Line	153	Winter North Atlantic	203

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.											
Description of Hatchway		Upper deck		Main deck		Second deck		Third deck		Fourth deck	
Dimensions of Hatchway		No. 1	No. 2	No. 3	No. 4	No. 1	No. 2	No. 3	No. 4	No. 1	No. 2
COAMINGS		22'-0" x 13'-0"	26'-0" x 13'-0"	24'-0" x 13'-0"	20'-0" x 13'-0"	22'-0" x 13'-0"	28'-0" x 13'-0"	26'-0" x 13'-0"	20'-0" x 13'-0"	20'-0" x 13'-0"	20'-0" x 13'-0"
COAMINGS	Height above Deck	815 mm.				230 x 90 x 11	230 x 90 x 11 mm.	B.A. coamings			
	Thickness	11 mm.				B.A.					
	Sides	11 mm.									
	Stiffeners	180 x 75 x 10 mm.									
HATCH BEAMS											
HATCH BEAMS	Number	2	8.67'	8.0'	6.67'	3	4	4	3		
	Spacing	7.33'				5.5'	5.6'	5.2'	5.0'		
	Scantling and Sketch										
	Bearing Surface	85 mm.				370-180 x 10 mm.	360-180 x 10 mm.	160 x 10 mm.	160 x 14 mm.	160 x 10 mm.	
FORE AND AFTERS											
FORE AND AFTERS	Number	1									
	Spacing	6.5'	8.34'	7.67'	6.34'						
	Unsupported Lengths										
	Scantling and Sketch										
HATCH COVERS											
HATCH COVERS	Material	Iron plate				65 mm.					
	Thickness	80 mm.				3 1/2"					
	How fitted	Alternating strips									
	Bearing Surface	3 3/8"									
Spacing of Cleats		23"				23"					
Number of Tarpaulins		2				1					

Particulars of fiddle, funnel and ventilator coamings:— No fiddley. Double funnel of 5 mm. plate. Engine and boiler room ventilator coamings are of strong & efficient construction.

Particulars of Flush Bunker Scuttles:— None.

Particulars of Companionways:— Aft: Steel deck house. Width of doorway 610 mm. Hgt. of sills 460 mm. Trunk doors, capable of being manipulated from both sides. Inrd: Steel comp. Width of opening 800 mm. Hgt. of sill 460 mm. Steel doors, capable of being manipulated from both sides.

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

Diem. of coamings 380 mm. Thickness 9 mm. Hgt. above deck 910 mm. Coamings welded to deck flange. Rivets spaced 4 diem. apart or welded direct to deck plating. All provided with means for closing.

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

Good wrecks 800-880 mm. high above deck. All provided with means for closing open end.

Particulars of Gangway Cargo and Coaling Ports:— None.

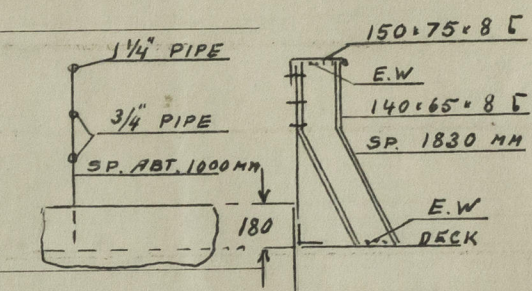
Particulars of Scuppers and Sanitary Discharge Pipes:— No overboard scuppers from shelter from deck space except one 5" x 5" none return valve on each side in forward well aft, operated from superstructure deck. Sanitary discharge pipes amidships led overboard above foreboard deck, aft just below after peak tank top. Sanitary discharge pipes, except those from the galley, and petty, are fitted with return valves.

Particulars of Side Scuttles:—

Side scuttles, below shelter decks, are fitted with hinged inside deadlights.

Particulars of Guard Rails:—

Open portable rails abreast all hatchways 1030 mm. high. Open rails aft. 1030 mm. high. Embarkation elsewhere. 1025 mm. high.



Particulars of Gangways, Lifelines, etc.:—

None.

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Damage After Well	4.25'	8.5'	✓	None	✓	✓
Upper deck amidships	24'	1025 mm.	950 x 250 mm.	1	23.75 dm ²	✓
State position of each freeing port (F. and A. position and height above deck edge) After Well:— Amidships:— Hgt. above deck edge 180 mm. Forward Well:— State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 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		6.5-6	75 x 50 x 7.5	850	✓	None	✓	2480
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead		6.5-6	75 x 50 x 7.5	900-990	✓	1000 x 2405	None	2480
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks		6.5-7.5	75 x 65 x 6.5	610	continuous attached to 2nd deck beams.	1520 x 610	380	2350
Machinery Casings within Superstructures not fitted with Class I Closing Appliances		6.5	75 x 65 x 6.5	610	"	Width 1100	325	2440
Deckhouses on Flush Deck Ships								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	No opening
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	Portable plates with hook bolts.
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors, manipulated from both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Hinged steel covers secured with hook bolts (Openings for coal only)
Deckhouses on Flush Deck Ships	

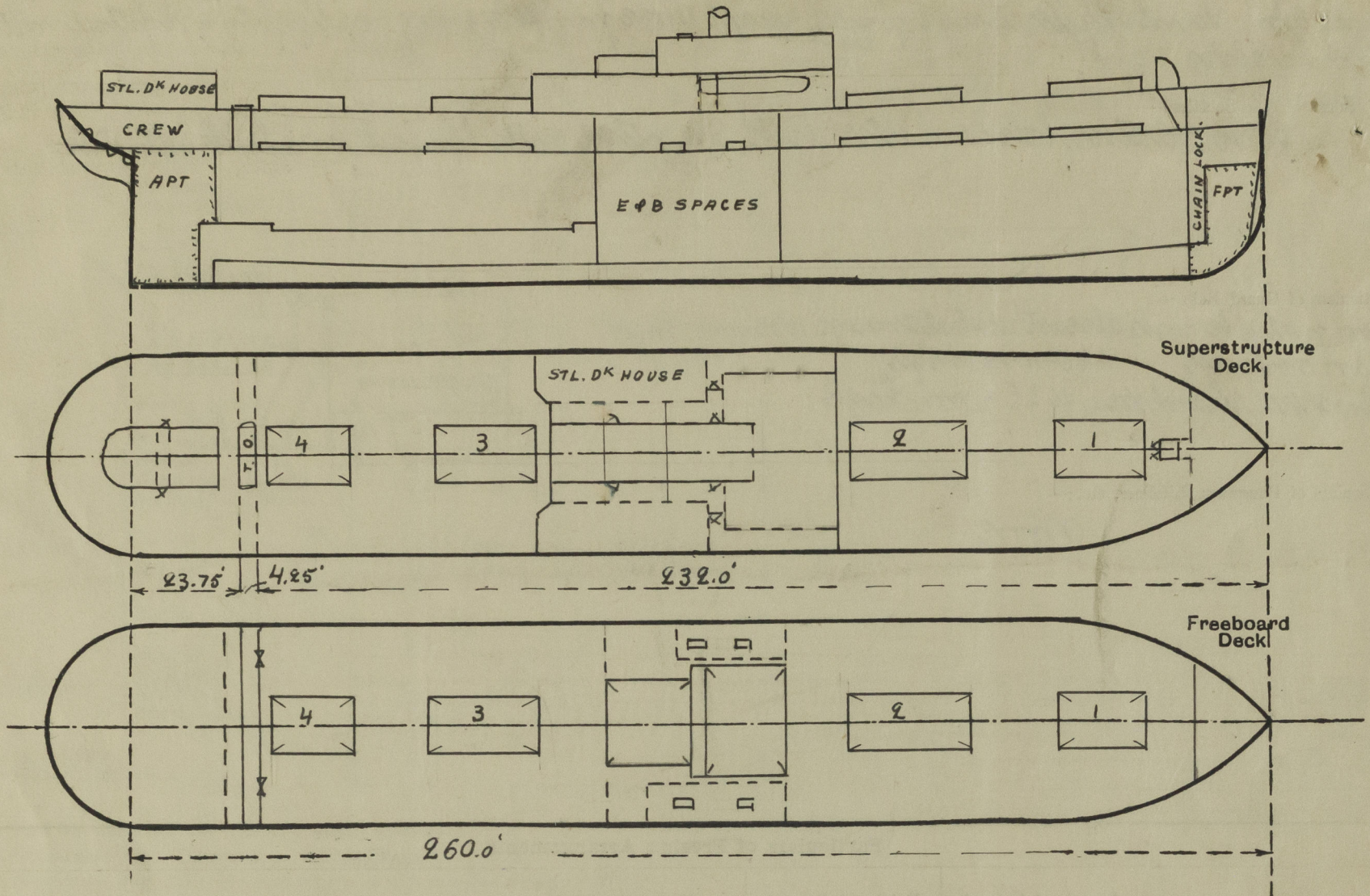
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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the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



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

Displacement in salt water and tons per inch immersion:

<i>Moulded draught</i>	<i>Displacement</i>	<i>Tons per inch.</i>
<i>16'-0"</i>	<i>3188 tons.</i>	<i>19.48 tons.</i>
<i>16'-2"</i>	<i>3220 "</i>	<i>19.50 "</i>
<i>16'-4"</i>	<i>3254 "</i>	<i>19.53 "</i>

Salt

Builder's name and yard number *Örnsköldsvaret Nos. Landskrona, Yard No. 42.*

Names of sister ships

Owners *Stockholms Rederiaktiebol. Svea, Stockholm.*

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