

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

-3 DEC 1931

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Loop, Bridge & Forecastle

Port of Survey Rothenburg and Helmsingborg

Date of Survey 25/11/31 and 26/11, 27/11, 28/11 1931

Name of Surveyors R. Bengtson & J. Aronson

Particulars of Classification + 100 A.1.

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>DICIDO</u>	<u>Swedish Hälsingborg</u>	<u>5209</u>	<u>1546</u>	<u>1903.</u>

Moulded Dimensions: Length 250.0 Breadth 37.0 Depth 21.17

Moulded displacement at moulded draught = 85 per cent. of moulded depth Not available on ship tons

Coefficient of fineness for use with Tables .995 3482.

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>21.17</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>✓</u>	Moulded Breadth (B) <u>37.0</u>
Ring plate <u>48</u> <u>.04</u>	(21.21 - 16.64) × 1.923 = + 8.43	Standard Round of Beam = $\frac{B \times 12}{50}$ = <u>8.88</u>
Leathing on exposed deck	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>✓</u>	Ship's Round of Beam = <u>11.925</u>
$T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Difference <u>.34</u>
Depth for Freeboard (D) = <u>21.21</u>		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$ = $\frac{.34}{4} \times .523 = - .05$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<u>30.0</u>		<u>7.0</u>		
" overhang			<u>3.5</u>		<u>30.0 × $\frac{3.5}{4.0}$ = 26.25</u>
R.Q.D. enclosed		<u>30.00</u>			
" overhang					
Bridge enclosed	<u>58.0</u>	<u>58.00</u>	<u>7.0</u>	<u>✓</u>	<u>58.00</u>
" overhang aft					
" overhang forward	<u>31.25</u>				
Fore enclosed	<u>31.25</u>	<u>31.25</u>	<u>7.0</u>	<u>✓</u>	<u>31.25</u>
" overhang					
Trunk aft					
Trunk forward					
Tonnage opening aft					
" forward					
Total	<u>119.25</u>	<u>119.25</u>			<u>115.50</u>

Standard Height of Superstructure 6.00 ✓

" " R.Q.D. 4.00 ✓

Deduction for complete superstructure 31.00 ✓

Percentage covered $\frac{S}{L} = \frac{44.40}{100} = 44.40$ ✓

" " $\frac{S_1}{L} = \frac{44.40}{100} = 44.40$ ✓

" " $\frac{E}{L} = \frac{46.20}{100} = 46.20$ ✓

Percentage from Table, Line A. ✓

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 32.44 ✓

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required) ✓

Deduction = 31.00 × .3244 = - 10.16

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
... ..	<u>35.00</u>	1		<u>35.00</u>	<u>35.00</u>	<u>35.00</u>	1		<u>35.00</u>
from A.P.	<u>15.54</u>	4		<u>62.28</u>	<u>15.00</u>	<u>15.00</u>	4		<u>60.00</u>
"	<u>3.85</u>	2		<u>7.70</u>	<u>3.00</u>	<u>3.00</u>	2		<u>6.00</u>
amidships	-	4		-	-	-	4		-
from F.P.	<u>7.40</u>	2		<u>14.80</u>	<u>9.00</u>	<u>9.00</u>	2		<u>18.00</u>
"	<u>31.15</u>	4		<u>124.60</u>	<u>31.00</u>	<u>31.00</u>	4		<u>124.00</u>
... ..	<u>40.00</u>	1		<u>40.00</u>	<u>40.00</u>	<u>40.00</u>	1		<u>40.00</u>
Total				<u>314.98</u>					<u>313.00</u>

Mean actual sheer aft = Deficient 95.44%

Mean standard sheer aft

Mean actual sheer forward = Excess

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = .104 L

" " aft of " = .125 L

As the sheer measured during survey was less than the standard on the graphs. Sheer aft

Actual	Standard	S.M.	Actual	Standard
<u>35.00</u>	<u>35.00</u>	1	<u>35.00</u>	<u>35.00</u>
<u>15.00</u>	<u>15.54</u>	3	<u>45.00</u>	<u>46.71</u>
<u>3.00</u>	<u>3.85</u>	3	<u>9.00</u>	<u>11.55</u>
		1	<u>89.00</u>	<u>93.26</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{1.98}{18} \times \left(\frac{75-31.15}{2 \times 250} \right) = \frac{1.98}{18} \times .14 = .0155$

If limited on account of midship superstructure. = + .06

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. = 95.44%

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Correction for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient
Depth to Freeboard Deck = <u>21.21</u> ✓	$\Delta =$ <u>3810</u>	Depth Correction <u>8.43</u> ✓
Summer freeboard = <u>2.80</u> ✓	Tons per inch immersion at summer load water line	Deduction for superstructures <u>10.16</u> ✓
Moulded draught (d) = <u>18.41</u> ✓	T = <u>18.8</u>	Sheer correction <u>.06</u> ✓
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>4.60</u> ✓	Deduction = $\frac{\Delta}{40 T}$ inches = <u>5.04</u> ✓	Round of Beam correction <u>.05</u> ✓
Correction for Winter North Atlantic Freeboard (if required) = <u>6.60</u> ✓		Correction for Thickness of Deck amidships <u>✓</u>
		Other corrections, scantlings, etc. <u>✓</u>
		Summer Freeboard = <u>33.61</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>2.64</u> = <u>246</u>	Tropical Fresh Water Freeboard	<u>23.94</u> = <u>608</u>
Fresh Water Line	<u>5.04</u> = <u>129</u>	Fresh Water	<u>28.54</u> = <u>725</u>
Tropical Line	<u>4.60</u> = <u>114</u>	Tropical	<u>29.01</u> = <u>734</u>
Winter Line below	<u>4.60</u> = <u>114</u>	Winter	<u>38.21</u> = <u>941</u>
Winter North Atlantic Line	<u>6.60</u> = <u>168</u>	Winter North Atlantic	<u>40.21</u> = <u>1022</u>

© 33.61 = 854 Metres

W434-0045(112)

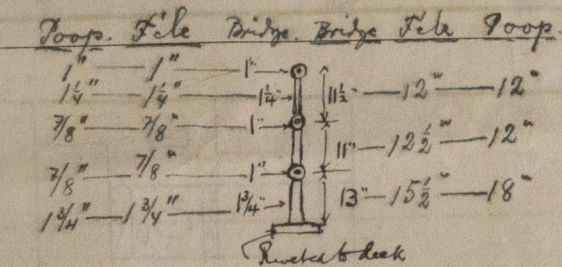
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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10
Dimensions of Hatchway	16.0 x 14.0	26.0 x 14.0	24.0 x 14.0	18.0 x 14.0	7.5 x 3.92	3.83 x 2.92	5.83 x 14.17	6.0 x 14.17	6.0 x 2.0	8.0 x 2.0
COAMINGS	Height above Deck	30"	30"	30"	30"	19"	15"	48"	48"	44"
	Thickness	40"	44"	40"	40"	32"	36"	30"	30"	44"
	Sides	40"	40"	40"	40"	32"	36"	30"	30"	44"
	Stiffeners	none	none	none	none	none	none	none	none	none
HATCH BEAMS	Number	one	two	two	one	none	none	none	none	none
	Spacing	8.0'	8.66'	8.00'	9.00'	none	none	none	none	none
	Scantling and Sketch	3" x 36"	3" x 36"	3" x 36"	3" x 36"	none	none	none	none	none
	Bearing Surface	3"	3"	3"	3"	none	none	none	none	none
FORE AND AFTERS	Number	3.5'	3.5'	3.5'	3.5'	none	none	none	none	none
	Spacing	8.0'	8.66'	8.00'	9.00'	none	none	none	none	none
	Unsupported Lengths	8.0'	8.66'	8.00'	9.00'	none	none	none	none	none
	Scantling and Sketch	4" x 6"	4" x 6"	4" x 6"	4" x 6"	none	none	none	none	none
HATCH COVERS	Material	wood	wood	wood	wood	wood	wood	wood	wood	wood
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	How fitted	flush	flush	flush	flush	flush	flush	flush	flush	flush
	Bearing Surface	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Spacing of Cleats	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Breadth of Cleats	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"

Particulars of Scuppers and Sanitary Discharge Pipes — 1 scupper pipe 2 1/4" p.s. in bridge deck ahead the boiler casing, etc. Discharge p.s. from crew quarters, s.s. amid. from Captain's room; s.s. aft from officers' cabin, all fitted with non-return valves and above the upper deck.

4 discharge valves p.s. amid. from the E.R. below the upper deck.
Particulars of Side Scuttles: Forecastle: 5 side lights 8" p.s. with deadlights (3 p.s. to crew quarters, 1 p.s. to wash room; 1 p.s. to W.C. & 1 s.s. to pump room).
Poop: 4 side lights each side 8" with deadlights (2 p.s. to cabins, 2 p.s. to canvas space).



Particulars of Guard Rails: — On Poop, Bridge & Forecastle: Stations spaced 4'-6" apart.

Particulars of Gangways, Lifelines, etc.: — Crew on Forecastle has no gangway forward. Crew also on Poop. — Ship Short Connecting gangway laid between Nos 3 & 4 hatches but no life lines arranged in both wells.

Bulwarks 3.67' high. 24 plate; supports bulk plate 6 x 28" spaced 5'6" apart. 3 inch each; a few are in deck beams. Top angle 5 x 3 x 1/2 inch.

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	63.75'	3.67'	3 1/2" x 19 1/2"	3"	12.8'	12.875'
Forward Well	64.46'	"	"	"	12.8'	12.875'

State position of each freeing port: After Well: 9.0', 31.0', 54.5' from Poop front lower edge 10" above deck (P. and A. position and height above deck edge). Forward Well: 11.0', 32.0', 52.0' " bridge front 12" above deck.
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — hinged shutters & 1 rail to each brass pin.
Additional area where sheer is less than standard. 2 mooring pipes p.s. in each 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	none	32"	5 x 3 x 3/4 angle	31"	none at top, continuous at bottom	2 timber ports 15" x 15"	15"	3.5'
Raised Quarter Deck Bulkhead			2 long. steel bulk 3 1/2" x 3 1/2" x 40 ft	3'-5"	not at Q.	6'-3" x 2'-10"	none	7.0'
Bridge, After Bulkhead	18 x 36"	32"	7 x 3 x 48 BA.	30"	Bkt T & B, 4R.	27 1/2" x 30"	46"	7.0'
Bridge, Forward Bulkhead	18 x 44"	40"	5 long. steel bulk 3 1/2" x 3 1/2" x 40 ft	30"		5'-0" x 2'-5 1/2"	15" wood	7.0'
Forecastle Bulkhead	18 x 40"	32"						
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	none	30"	3 x 3 x 40"	3'-10"	not at top, continuous at bottom	none		3.0'
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures 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	Bolted plate, bolts passing through the spaced 3 1/2" apart.
Raised Quarter Deck Bulkhead	Bolted plate, with bolts passing through the spaced 4 1/2" to 5"
Bridge, After Bulkhead	Bolted plate, bolts passing through the spaced 4" apart.
Bridge, Forward Bulkhead	wood door to file with handle opening from both sides; 1 steel & 3 wood doors to file side houses with 18" steel coamings.
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	wood door adjoining casing 4'-10" x 2'-9" with handle opening from both sides, protected by side houses.
Deckhouses on Flush Deck Ships	

Particulars of fiddle, funnel and ventilator coamings: — Fiddle opening 3.58' x 8.17' at top of casing; 3" angle coaming; 16 hinges steel cover with no stiffening or means of securing. Vents to Bal. Rm. p.s. 22" high 1 1/2" dia. 10" thick; Vents to Stokers' p.s. 20" dia. x 16" thick; 6 ft high, can be turned half open leaving all 5" coaming & no efficient means of making w.r. Funnel on top of casing, 3'-0" above bulk da.

Particulars of Flush Bunker Scuttles: — none.

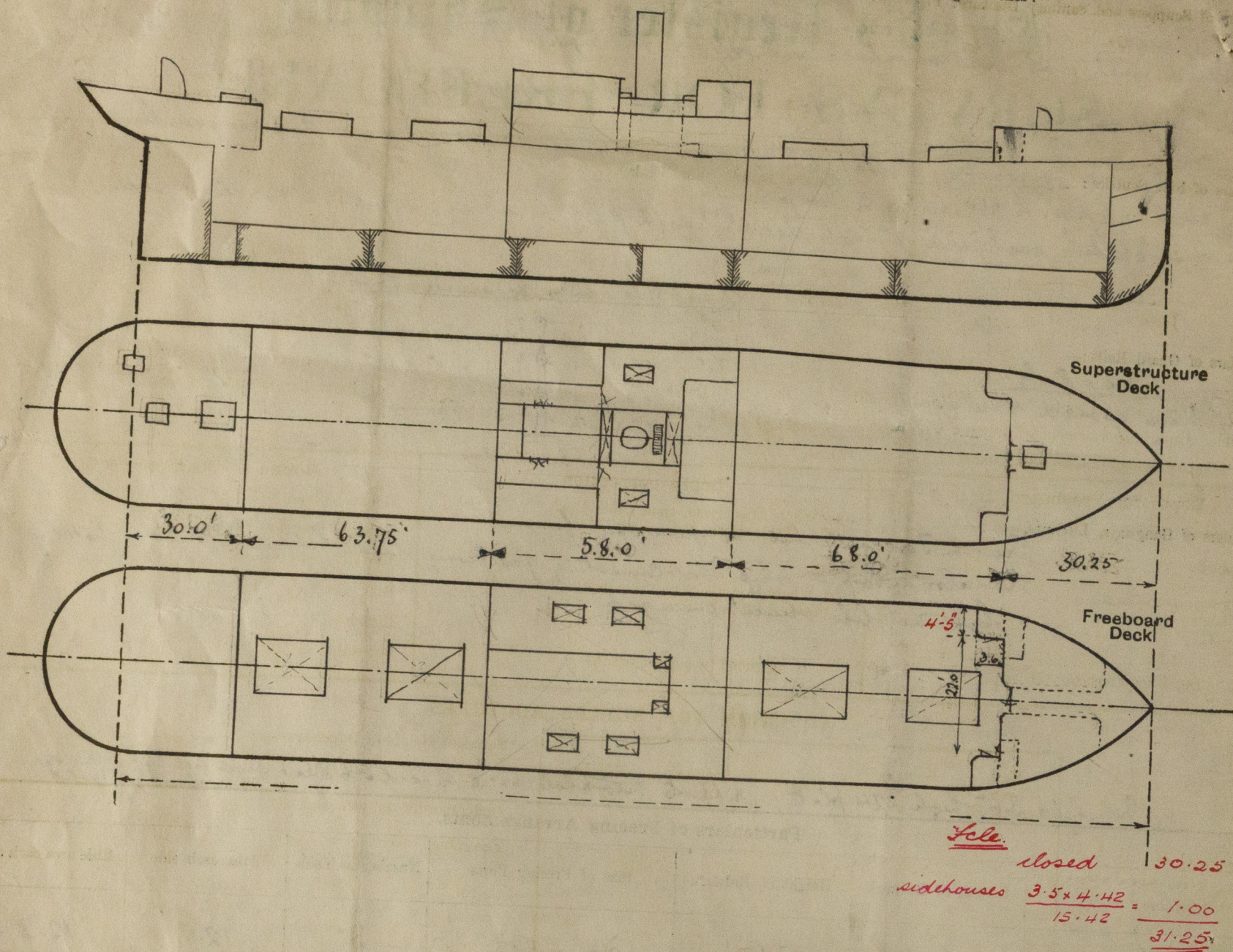
Particulars of Companionways: — On Poop: Steel, with wood hinges door 4.53' x 2.0' at aft end, sill 13" wood. to Crew's Quarters. On Fore: Steel with hinges steel door 4.17' x 2.33' in two halves, at aft end, sill 10" steel, to Crew's Quarters. doors capable of being manipulated from both sides. See surveyors letter 10/12/31. 24"

Particulars of Ventilators in exposed positions on freeboard and superstructure decks: — Upper Deck: 4 to Cargo holds 3'-0" x 14" d x 28". Riveted deck angle 4" apart; 1-14" Vents to Tunnel from each 16" high all with wood plugs & tarpaulins for closing. Poop Deck: 4 x 6" to Crew's Acc. 8" high x 20" thick with wood plugs & tarpaulins for closing.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks: — 4-2" air pipes on Upper Deck 39" high goose neck; All remaining air pipes flush with deck with 20" caps.

Particulars of Gangway Cargo and Coaling Ports: — none.

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:—

The Owners desired to have also an assignment for timber freeboard but the centre girder of the double bottom is not W.T. as required by the Rules. There is a hand gear on the poop but no protection house of any kind over it. The steering gear is - as stated - at all times when timber deck cargo is carried, protected by strong wood casings. There is no angles or sockets on deck for securing uprights, no eye plates and the means for lashings do not fulfill the requirements of the Rules. Plans showing the fittings and arrangements for stowing and securing timber deck cargoes will be performed.

Builder's name and yard number

Names of sister ships

Owners

Rederiet för Ang. "Disido"

Fee Kr. 170.00

(Helsingborg Acct.)

Fees applied for:

Received by me 1/12 1931. *LA*



Lloyd's Register Foundation