

# Lloyd's Register of Shipping. SURVEYS FOR FREEBOARD

Index. No.

(For London Office only.)

34755  
W 126

20 OCT 1936

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
 having *Complete superstructure deck, half height forecastle and  
 tonnage opening aft.*  
 (Type of Superstructures.)

Port of Survey *Landskrona*Date of Survey *While building*Name of Surveyor *Aslund*Particulars of Classification *100A1  
With freeboard*

Ship's Name *M/S "JOHANNA THORDEN"* Nationality and Port of Registry *Finnish Brändö 04.Z.S. Helsingfors* Gross Tonnage *3222.91* Date of Build *1936*

Moulded Dimensions: Length *362'-0"* Breadth *51'-0"* Depth *23'-9"*

Moulded displacement at moulded draught = 85 per cent. of moulded depth *7264* tons

Coefficient of fineness for use with Tables *.675 .682 ✓*

## Depth for Freeboard (D)

Moulded depth ... *23.75*  
 Stringer plate ... *.028*  
 Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$

Depth for Freeboard (D) = *23.778 ✓*

## Depth correction

(a) Where D is greater than Table depth  
(D - Table depth) R =

(b) Where D is less than Table depth (if allowed)

(Table depth - D) R = *✓(24.13 - 23.78) 2.784 = -.97 ✓*

If restricted by superstructures

## Round of Beam correction

Moulded Breadth (B) *51.0'*Standard Round of Beam =  $\frac{B \times 12}{50} = 12.24$ Ship's Round of Beam *Moulded = 0*Difference *12.24 = 12.24 m/m*

Restricted to

Correction =  $\frac{\text{Diff}^2}{4} \times (1 - \frac{S_1}{L}) = \frac{12.24^2}{4} \times .0058 = +.02$ 

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>23.0'</i>	<i>23.00</i>	<i>inner deck height amidships 8.0'</i>		<i>23.00</i>
" overhang ...	<i>.33'</i>	<i>.16</i>			<i>.16</i>
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<i>334.34'</i>	<i>334.34</i>			<i>334.34</i>
" overhang aft ...	<i>.33'</i>	<i>.25</i>			<i>.25</i>
" overhang forward ...					
Fore enclosed <i>See sketch</i>					
" overhang ...					
Trunk aft ...					
" forward ...	<i>.00</i>	<i>1/2 diff</i>	<i>inner deck height amidships 8.0'</i>		
Tonnage opening aft ...	<i>4.66'</i>	<i>2.12</i>			<i>2.12</i>
" " forward ...					
Total ...	<i>362.00</i>	<i>359.87</i>			<i>359.87</i>

Standard Height of Superstructure *7.12 ✓*" " R.Q.D. *✓*Deduction for complete superstructure *39.47 ✓*Percentage covered  $\frac{S}{L} = 100\%$ "  $\frac{S_1}{L} = 99.42\%$ "  $\frac{E}{L} = 99.42\%$ 

Percentage from Table, Line A.

(corrected for absence of forecastle (if required)) *99.28 ✓*Percentage from Table, Line B. *✓*(corrected for absence of forecastle (if required)) *✓*Interpolation for bridge less than 2L (if required) *✓*Deduction = *39.47 x .9928 = 39.19 ✓*

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>46.20</i>	<i>1</i>	<i>46.20</i>	<i>37.76</i>	<i>48.32</i>	<i>1</i>	<i>48.32</i>		
$\frac{1}{8}L$ from A.P. ...	<i>20.56</i>	<i>4</i>	<i>82.24</i>	<i>13.19</i>	<i>21.50</i>	<i>4</i>	<i>86.00</i>		
$\frac{2}{8}L$ " ...	<i>5.08</i>	<i>2</i>	<i>10.16</i>	<i>2.37</i>	<i>5.315</i>	<i>2</i>	<i>10.63</i>		
Amidships ...	<i>-</i>	<i>4</i>	<i>-</i>	<i>0</i>	<i>-</i>	<i>4</i>	<i>-</i>		
$\frac{3}{8}L$ from F.P. ...	<i>10.16</i>	<i>2</i>	<i>20.32</i>	<i>9.44</i>	<i>13.19</i>	<i>2</i>	<i>26.38</i>		
$\frac{4}{8}L$ " ...	<i>41.12</i>	<i>4</i>	<i>164.48</i>	<i>37.0</i>	<i>53.37</i>	<i>4</i>	<i>213.48</i>		
F.P. ...	<i>92.40</i>	<i>1</i>	<i>92.40</i>	<i>82.67</i>	<i>119.94</i>	<i>1</i>	<i>119.94</i>		
Total ...	<i>-</i>		<i>415.80</i>				<i>504.75</i>		

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{88.95}{18} \times .25 = -1.24 ✓$ 

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 = *23.78*Summer freeboard = *1.56*Moulded draught (d) = *22.22*

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = *5.56 = 14.1 m/m*

## Addition for Winter North Atlantic Freeboard (if required) =

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 8148$ 

Tons per inch immersion at summer load water line

T = *35.71*Deduction =  $\frac{\Delta}{40T}$  inches= *5.71*= *14.5 m/m x*

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{682 + 68}{1.36} = 1.362$ Depth Correction ... *97*Deduction for superstructures ... *39.19*Sheer correction ... *1.24*Round of Beam correction ... *.02*

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = *18.71 = 47.5 m/m*SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck: *47.5 m/m*

Tropical Fresh Water Line above Centre of Disc ...	<i>286 x</i>
Fresh Water Line " " ...	<i>145 x</i>
Tropical Line " " ...	<i>141 x</i>
Winter Line below " " ...	<i>141 x</i>
Winter North Atlantic Line " " ...	<i>✓</i>

Tropical Fresh Water Freeboard ... *189 x*Fresh Water " " ... *330 x*Tropical " " ... *334 x*Winter " " ... *616 x*

Winter North Atlantic " " ...

27 OCT 1936

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.									
Description of Hatchway		Superstr. deck		Fore peak		Main deck		Second deck	
Dimensions of Hatchway		No. 1		No. 2		No. 3		No. 4	
COAMINGS	Height above Deck	855 mm		1300 mm		1300 mm		1300 mm	
	Thickness	11 mm		11 mm		11 mm		11 mm	
	Stiffeners	180 x 75 x 10		180 x 75 x 10		180 x 75 x 10		180 x 75 x 10	
	Brackets, Stays	2 x 180 x 4		2 x 180 x 4		2 x 180 x 4		2 x 180 x 4	
	Number	4		4		4		4	
HATCH BEAMS	Spacing	490		490		490		490	
	Scantling and Sketch	E.W. 200 x 14		200 x 12		200 x 12		200 x 12	
	Bearing Surface	80 mm		80 mm		80 mm		80 mm	
	Number	4		4		4		4	
	Spacing	490		490		490		490	
FORE AND AFTERS	Unsupported Lengths	200 x 14		200 x 12		200 x 12		200 x 12	
	Scantling and Sketch	E.W. 200 x 14		200 x 12		200 x 12		200 x 12	
	Bearing Surface	80 mm		80 mm		80 mm		80 mm	
	Number	4		4		4		4	
	Spacing	490		490		490		490	
HATCH COVERS	Material	Wood		Steel		Wood		Steel	
	Thickness	65 mm		8 mm		65 mm		65 mm	
	How fitted	F. & A.		W. T.		F. & A.		F. & A.	
	Bearing Surface	90 mm		W. T.		90 mm		90 mm	
	Spacing of Cleats	560		570		560		570	
Number of Tarpaulins		2		1		2		2	
*Are wood fore and afters steel shod at all bearing surfaces? <i>Yes</i>									
Are battens and wedges efficient and in good condition? <i>Yes</i>									
Are tarpaulins in good condition and in accordance with rule requirements? <i>Yes</i>									
Are lashings provided in accordance with rule requirements? <i>Yes</i>									

Particulars of fiddle, funnel and ventilator coamings: *No fiddle. Funnel and motor room ventilators on top of casing are efficiently constructed.*

Particulars of Flush Bunker Scuttles: *None*

Particulars of Companionways: *Cross quarters aft. - Steel house. Width of doorway 600 mm. Hgt. of sill from steel deck 485 mm. Hinged steel door, manipulated from both sides. Accommod. in trunk deck amidships. - The stairways are inside the steel house on shelter deck. Wood doors, manipulated from both sides.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks: *Shelter deck: - Diam. 450 mm. Thickness 9 mm. Hgt. of coam. 1400 mm. All vent. coamings above 915 mm. in height are efficiently supported, the deck flange is electrically welded to the coaming and riveted to deck by rivets spaced 4 diam. apart. All coamings are supplied with means of closing.*

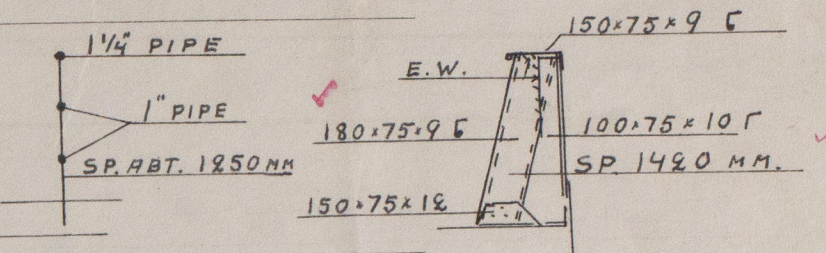
Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks: *Grossmacker type, galv. iron 780-900 mm. high above deck. All supplied with means of closing open ends.*

Particulars of Gangway Cargo and Coaling Ports: *None*

Particulars of Scuppers and Sanitary Discharge Pipes: *Five 3 1/2" scuppers each side from foreboard deck drain overboard about 1" below that deck and are fitted with storm valves. For position of scuppers see sketch on the back of report. Sanitary discharge pipes amidships are led overboard above the foreboard deck and same aft led overboard below after peak tank top. All fitted with storm valves.*

Particulars of Side Scuttles: *All side lights are of strong construction and are fitted with brimmed, inside deadlights.*

Particulars of Guard Rails: *Open rail at after part forecastle and in way of deck from aft about 1060 mm high. Brackets elsewhere on fore and shelter deck.*



Particulars of Gangways, Lifelines, etc.: *None*

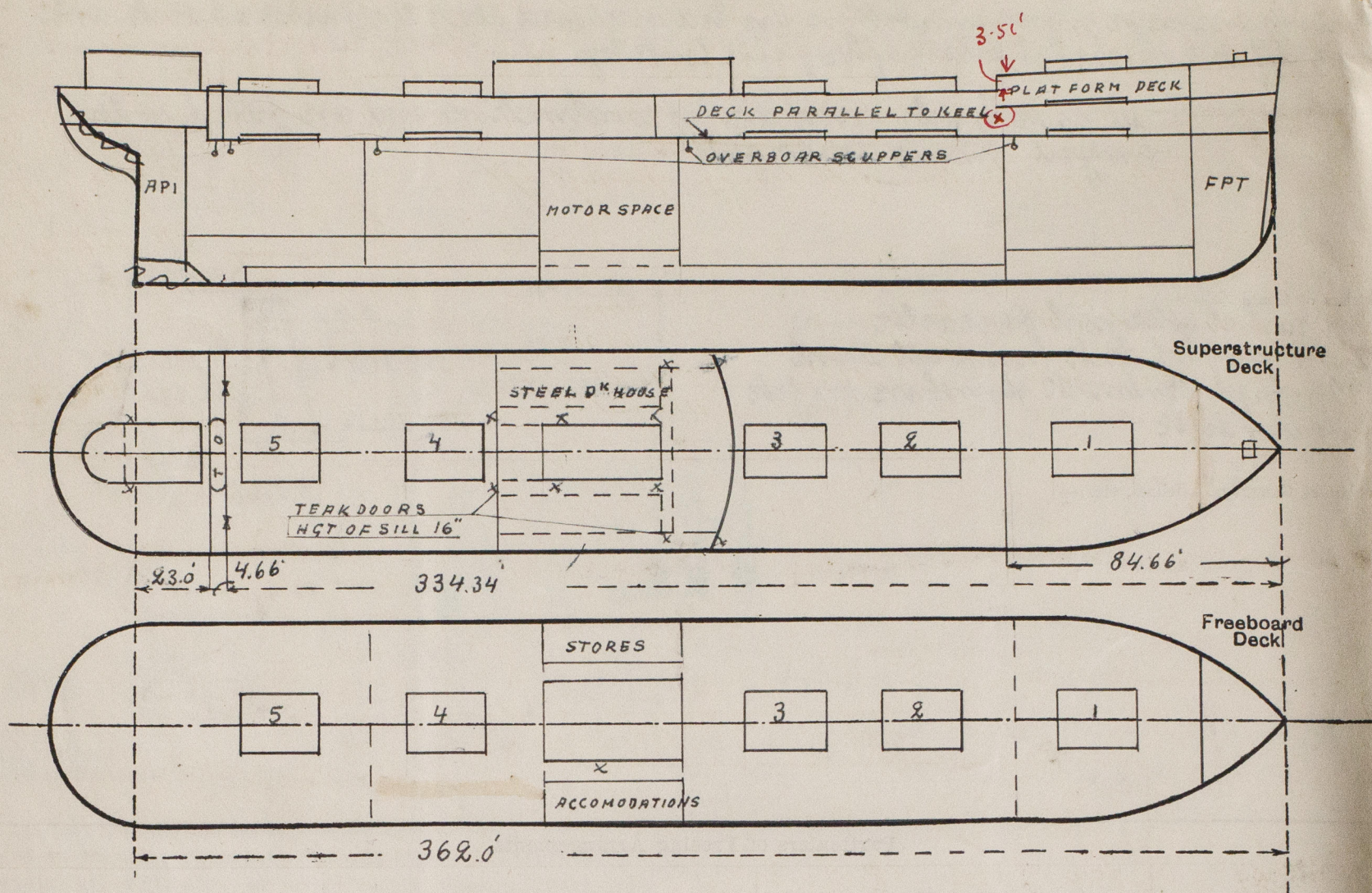
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well Shelter deck	252'	1060 mm		6 pairs	275 dm <sup>2</sup>	233 dm <sup>2</sup>
Forepeak Forward Well	1420 mm	3200 mm	450 x 450 mm	1	20.25 dm <sup>2</sup>	Hgt. above deck edge 230 mm
<p>State position of each freeing port (F. and A. position and height above deck edge) } After Well: 76' 96" 118' } Hgt. above deck edge 230 mm</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: <i>None</i></p> <p>Additional area where sheer is less than standard.</p>						

Particulars of Superstructures, Trunks, Casings, Deckhouses.							
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills
Poop Bulkhead		6.5	75 x 50 x 7.5	860-900	✓	None	3200
Raised Quarter Deck Bulkhead		6.5	75 x 50 x 7.5	860-900	✓	1000 x 3145	
Bridge, After Bulkhead		6.5	75 x 50 x 7.5	860-900	✓		
Bridge, Forward Bulkhead		7	100 x 75 x 8	765	✓	None	1070
Forecastle Bulkhead							
Trunk, Aft							
Trunk, Forward							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks		6.5	75 x 65 x 7.5	710	attached to beams	600 x 1550	380
Exposed Machinery Casings on Superstructure Decks		6.5	75 x 65 x 7.5	710	attached to beams	590 x 1520	380
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	No openings
Raised Quarter Deck Bulkhead	Portable plates and hook bolts, full height.
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	No openings.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	Hinged steel doors, manipulated from both sides.
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors, manipulated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	



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 shown on the following sketches:—



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

Displacement in salt water and tons per inch immersion:—

Moulded draught	Displacement	Tons per inch.
22'-0"	8060	35.66
22'-3"	8160	35.73
22'-6"	8247	35.81

Actual sheer at point (X) = 23.42"  
 Sheer height of stem posts =  $\frac{10.56}{33.98}$

Virtual sheer at F.P. =  $33.98 \times \left( \frac{181}{181 - 84.66} \right)^2 = 119.94"$

Builder's name and yard number

Öresmidsvarvet AB, Landskrona. Yard No. 41.

Names of sister ships

Owner

Gust. B. Thordén, Helsingfors.

Fee £

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