

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. **34094**  
(For London Office only.)

25 NOV 1932

25

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

*Complete superstructure with tonnage opening aft*

Port of Survey

*Gothenburg*

Date of Survey

*21st Nov 1932*

Name of Surveyor

*L. Hjernqvist*

Particulars of Classification

*\*100 A1  
With freeboard.***NORDNES**

(Type of Superstructures.)

Ship's Name

Nationality and Port of Official Number

Gross Tonnage

Date of Build

Moulded Dimensions: Length *113.38 m.* Breadth *16.76 m.* Depth *8.38 m. to 2nd deck*  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth *10520* = *10426* tons<sup>3</sup>  
 Coefficient of fineness for use with Tables *.771*

## Depth for Freeboard (D)

Moulded depth ... *8.38*  
 Stringer plate ... *0.01*  
 Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$  *✓*

Depth for Freeboard (D) = *8.39*

## Depth correction

(a) Where D is greater than Table depth  
 $(D - \text{Table depth}) R = 8.33 (8.39 - 7.56) = 28.64$   
 $= +198$   
 (b) Where D is less than Table depth (if allowed)  
 $(\text{Table depth} - D) R =$  *✓*

If restricted by superstructures *✓*

## Round of Beam correction

Moulded Breadth (B) *16.76*  
 Standard Round of Beam =  $\frac{B \times 12}{50} = 335$   
 Ship's Round of Beam = *350 mm. 0*  
 Difference *335 mm. excess*  
 Restricted to  
 Correction =  $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{335}{4} \times .006 = +1.99$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>9650</i>	<i>9.65</i>	<i>2590</i>		<i>9.65</i>
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...	<i>102310</i>	<i>102.31</i>	<i>2590</i>		<i>102.31</i>
„ overhang aft ...	<i>80</i>	<i>.06</i>			<i>.06</i>
„ overhang forward ...					
F'cle enclosed ...					
„ overhang ...					
Trunk aft ...					
„ forward ...					
„ „ forward					
Total ...	<i>113.38</i>	<i>112.70</i>			<i>112.70</i>

Standard Height of Superstructure *2204*„ „ R.Q.D. *✓*Deduction for complete superstructure *1019*Percentage covered  $\frac{S}{L} = 100\%$ „ „  $\frac{S_1}{L} = 99.40\%$ „ „  $\frac{E}{L} = 99.40\%$ Percentage from Table, Line A.  
(corrected for absence of forecastle (if required)) *99.26%*Percentage from Table, Line B.  
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = *1019 + .9926 = -1010*

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>1198</i>	<i>1</i>	<i>1198</i>	<i>1220</i>	<i>1606</i>	<i>1</i>	<i>1606</i>		
$\frac{1}{2}$ L from A.P. ...	<i>533</i>	<i>4</i>	<i>2132</i>	<i>330</i>	<i>682</i>	<i>4</i>	<i>2728</i>		
$\frac{3}{8}$ L „ ...	<i>133</i>	<i>2</i>	<i>266</i>	<i>5</i>	<i>140</i>	<i>2</i>	<i>280</i>		
Amidships ...	<i>✓</i>	<i>4</i>	<i>✓</i>	<i>0</i>		<i>4</i>			
$\frac{3}{8}$ L from F.P. ...	<i>266</i>	<i>2</i>	<i>532</i>	<i>116</i>	<i>314</i>	<i>2</i>	<i>628</i>		
$\frac{1}{2}$ L „ ...	<i>1065</i>	<i>4</i>	<i>4260</i>	<i>1042</i>	<i>1255</i>	<i>4</i>	<i>5020</i>		
F.P. ...	<i>2397</i>	<i>1</i>	<i>2397</i>	<i>2439</i>	<i>2825</i>	<i>1</i>	<i>2825</i>		
Total ...	<i>10782</i>		<i>10785</i>				<i>13087</i>		

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( 75 - \frac{S}{2L} \right) = \frac{2302}{18} \times .25 = -32\%$ 

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.

Ft.  
 Depth to Freeboard Deck = *8390*  
 Summer freeboard = *864*  
 Moulded draught (d) = *7526*

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{48}$  inches = *157*Addition for Winter North Atlantic Freeboard (if required) = *✓*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$  *11223*

Tons per inch immersion at summer load water line

 $T =$  *40.68*Deduction =  $\frac{\Delta}{40 T}$  inches $= \frac{11223}{1627.2} = 6.9$  inches75% *81% 85% of M. depth**9230 10560 11920 tons**39.8 40.6 41.4 tons*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{-771 + 68}{1.36} = \frac{1451}{1360}$ Depth Correction ... *198*Deduction for superstructures ... *1010*Sheer correction ... *32*Round of Beam correction ... *1*Correction for Thickness of Deck amidships ... *1*Other corrections, scantlings, etc. ... *1**199 1042 - 843*Summer Freeboard = *864*SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **Wood, Steel, Deck**:-

Tropical Fresh Water Line above Centre of Disc ...	<i>332</i>	Tropical Fresh Water Freeboard ...	<i>532</i>
Fresh Water Line „ „ ...	<i>175</i>	Fresh Water „ „ ...	<i>689</i>
Tropical Line „ „ ...	<i>157</i>	Tropical „ „ ...	<i>707</i>
Winter Line below „ „ ...	<i>157</i>	Winter „ „ ...	<i>1021</i>
Winter North Atlantic Line „ „ ...	<i>✓</i>	Winter North Atlantic „ „ ...	<i>✓</i>



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		No. 1		No. 2		No. 3		No. 4	
Dimensions of Hatchway		1840x6250		1840x6250		1840x6250		1840x6250	
COAMINGS	Height above Deck	820		820		820		820	
	Thickness	11		11		11		11	
	Stiffeners	180x75x10 L		180x75x10 L		180x75x10 L		180x75x10 L	
	Brackets, Stays	180x10 T		180x10 T		180x10 T		180x10 T	
HATCH BEAMS	Number	12		12		12		12	
	Spacing	1420		1420		1420		1420	
	Scantling and Sketch	460x8.5		460x8.5		460x8.5		460x8.5	
	Bearing Surface	100x75x11 L		100x75x11 L		100x75x11 L		100x75x11 L	
FORE AND AFTERS	Number	12		12		12		12	
	Spacing	1420		1420		1420		1420	
	Unsupported Lengths	460x8.5		460x8.5		460x8.5		460x8.5	
	Scantling* and Sketch	100x75x11 L		100x75x11 L		100x75x11 L		100x75x11 L	
HATCH COVERS	Material	Wood		Wood		Wood		Wood	
	Thickness	65		65		65		65	
	How fitted	fore and aft		fore and aft		fore and aft		fore and aft	
	Bearing Surface	75		75		75		75	
Spacing of Cleats		600		600		600		600	
Number of Tarpaulins		2		2		2		2	

Particulars of fiddle, funnel and ventilator coamings:— Funnel and ventilators on top of boat deck efficiently constructed and supported.

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:—

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

All ventilators 925 mm. high or above 10 mm coaming, and all fitted with steel covers and canvas cover. High ventilator efficiently supported. 5 flush horn ventilators to crew space aft 525 mm high and 300 mm diam. fitted with screw cap.

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

All air pipes, steel pipe goose neck 900 mm. high and fitted with means of closing.

Particulars of Gangway Cargo and Coaling Ports:—

Aurora

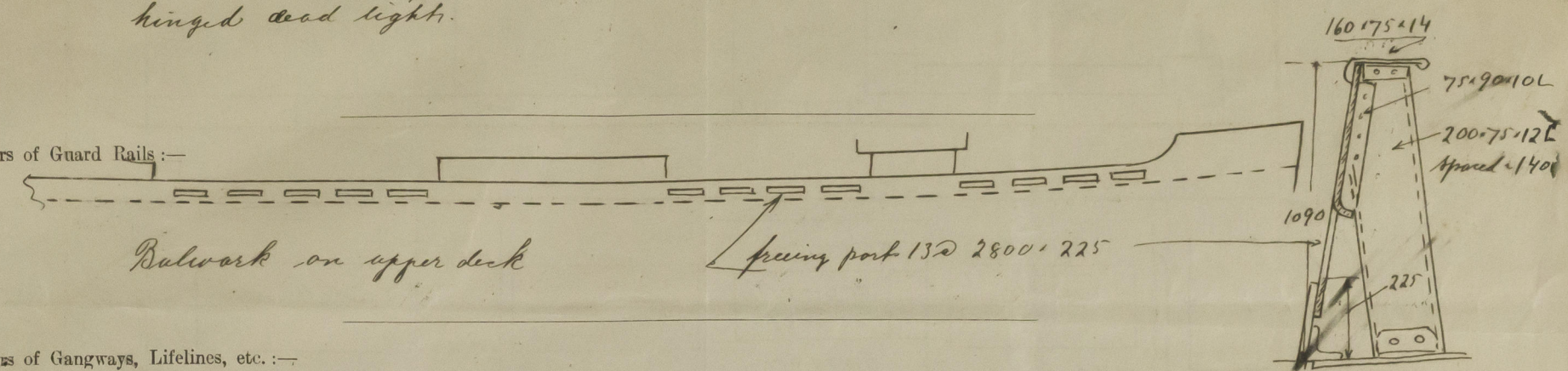
Particulars of Scuppers and Sanitary Discharge Pipes:—

3 scuppers each side from tween deck space and one each side from foremast opening space led overboard and fitted with non return valve and fitted with strong back covers at inner end. Sanitary discharge pipes led overboard about 300 mm above 2nd deck and fitted with non return valves.

Particulars of Side Scuttles:—

All side scuttles of substantial construction and fitted with hinged dead lights.

Particulars of Guard Rails:—



Particulars of Gangways, Lifelines, etc.:—

Particulars of Freeing Arrangements.						
	Length of Bulwark on upper deck	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	101.95 m.	1.09 m.	2.8 x 0.225 m.	13.	8.19 m <sup>2</sup>	3.11 m <sup>2</sup>
Forward Well						

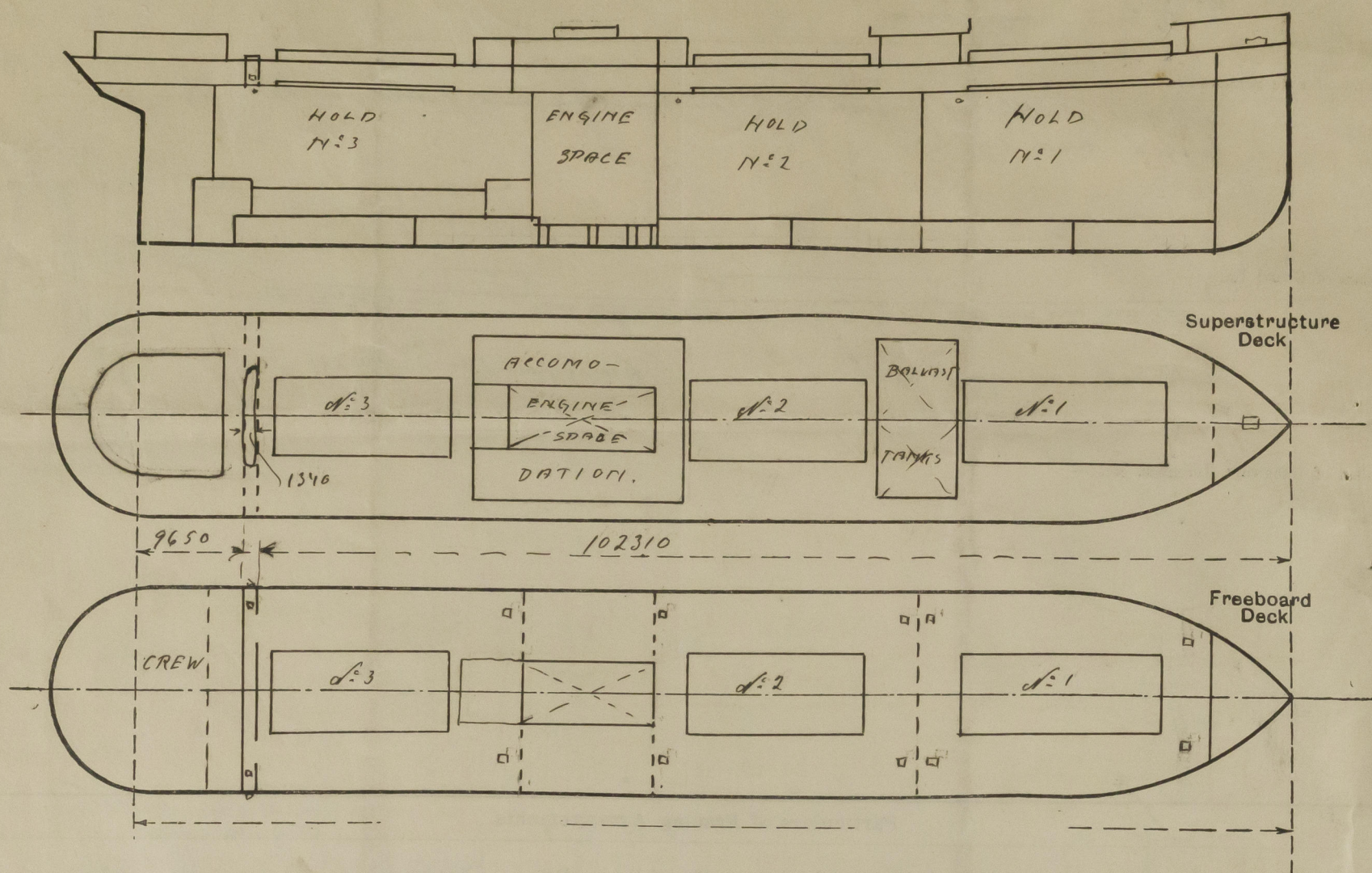
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Additional area where sheer is less than standard.

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		7.0	100x75x8 L	700-835	to angle top and bottom	None		2590
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead		7.0	100x75x8 L	780	to angle top and bottom	2500 x 950	None	2590
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	65x75x6.5	710	to beam top and bottom	1645x710	370	2380
Machinery Casings within Superstructures not fitted with Class I Closing Appliances		6.5	90x60x8.0	710	to beam top and bottom	None		2580
Deckhouses on Flush Deck Ships		7.0	100x65x8.0	800	to beam top and bottom	1530x700	440	

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	No opening
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	Slipping boards in riveted channels full height, 75 mm. thick
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	Casing protected by deckhouse (steel hinged doors operated from both sides)
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	No opening
Deckhouses on Flush Deck Ships	22" Wood doors operated from both sides.



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:—

Tonnage opening aft.

Tonnage opening hatch 7600 x 1340 with 230 x 90 x 12 L coaming 3" wood covers tarpaulins and battering down arrangement for closing (temporary)

One freeing port each side in tonnage opening space 900 x 600 fitted with hinged shutters

One scupper each side fitted with non return valve

Please see Gothenburg report 8505

Builder's name and yard number

A.B. Göteborgen Yard N° 470 (previously designated yard N° 466)

Names of sister ships

Owners

Rederiakt. Genith.

Approved Fee Nkr 350

Received by me



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