

No 8779

24 MAY 1932

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Index No. (For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Awningdeck with monkey forecastle

Port of Survey Gothenburg

Date of Survey 23rd May 1932

Name of Surveyor M. J. H. Lyderman

Particulars of Classification 100 A. 1.
Awng. dx. with freeboard.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>M/V FORMOSA</u>	<u>Swedish</u> <u>Gothenburg</u>	<u>6722</u>	<u>7032</u>	<u>1921-2</u>

Moulded Dimensions: Length 425' 5 1/2" Breadth 55' Depth 38' 6"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 16960 tons

Coefficient of fineness for use with Tables .775

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>38.50</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(38.78 - 28.36) 3.00 = + 31.26"</u>	Moulded Breadth (B) <u>55'</u>
Stringer plate <u>.05</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 13.20$
Heating on exposed deck $T \left(\frac{L-S}{L} \right) = .25 \times 9.7$ <u>.23</u>	✓	Ship's Round of Beam = <u>13.34</u>
Depth for Freeboard (D) = <u>38.78</u>	If restricted by superstructures ✓	Difference <u>.55"</u>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.55}{4} \times .927 = -.13$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	✓				
" overhang ...	✓				
R.Q.D. enclosed ...	✓				
" overhang ...	✓				
Bridge enclosed ...	✓				
" overhang aft ...	✓				
" overhang forward ...	✓				
F'cle enclosed ...	<u>35' 4 1/2"</u>	<u>35.37</u>	<u>3' 0"</u>	<u>x 3.00/7.5</u>	<u>14.15</u>
" overhang ...	✓				
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" forward ...	✓				
Total ...	<u>35.37</u>	<u>35.37</u>			<u>14.15</u>

Standard Height of Superstructure 7.50

" " R.Q.D. ✓

Deduction for complete superstructure 42.00

Percentage covered $\frac{S}{L} = 8.31\%$

" " $\frac{S_1}{L} = 8.31\%$

" " $\frac{E}{L} = 3.33\%$

Percentage from Table, Line A. 1.66%
(corrected for absence of forecastle (if required))

Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 42.00 x .0166 = -.70

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
P. ...	<u>52.54</u>	1		<u>52.54</u>	<u>60.5</u>	<u>61.00</u>	1		<u>61.00</u>
from A.P. ...	<u>23.38</u>	4		<u>93.52</u>	<u>25</u>	<u>26.07</u>	4		<u>104.28</u>
" ...	<u>5.78</u>	2		<u>11.56</u>	<u>5</u>	<u>6.51</u>	2		<u>13.02</u>
midships ...	✓	4		✓	0	✓	4		✓
from F.P. ...	<u>11.56</u>	2		<u>23.12</u>	<u>11</u>	<u>12.44</u>	2		<u>24.88</u>
" ...	<u>46.76</u>	4		<u>187.04</u>	<u>48.63</u>	<u>49.76</u>	4		<u>199.04</u>
P. ...	<u>105.08</u>	1		<u>105.08</u>	<u>113.5</u>	<u>117.00</u>	1		<u>117.00</u>
Total ...				<u>472.86</u>					<u>519.22</u>

Mean actual sheer aft = excess

Mean standard sheer aft

Mean actual sheer forward = excess

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = nil

" " aft of " = nil

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{46.36}{18} (.75 - .0415) = -1.82" = \text{Nil. (no midship superstructure)}$

If limited on account of midship superstructure. Nil.

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 $\frac{.68 + .775}{1.36} = \frac{1.455}{1.36}$
Depth to Freeboard Deck = <u>38.80</u>	$\Delta = 148.47$	Depth Correction <u>31.26</u>
Summer freeboard = <u>10.00</u>	Tons per inch immersion at summer load water line	Deduction for superstructures <u>.70</u>
Moulded draught (d) = <u>28.80</u>	T = <u>46.24</u>	Sheer correction <u>.13</u>
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction <u>.13</u>
Winter freeboard = $\frac{d}{4}$ inches = <u>7.20" = 183 mm</u>	= <u>8.01" = 203 mm</u>	Correction for Thickness of Deck amidships to correspond to approved Winter Moulded Draught of <u>28' 2 1/4"</u>
Addition for Winter North Atlantic Freeboard (if required =		Other corrections, scantlings, etc. <u>4.36</u>
		<u>35.86</u> <u>.83</u> <u>+ 35.03</u>
		Summer Freeboard = <u>120.05"</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: 120.05" = 3049 mm

Tropical Fresh Water Line above Centre of Disc	<u>15.21"</u>	= <u>386 mm</u>	Tropical Fresh Water Freeboard <u>104.84"</u> = <u>2663 mm</u>	
Fresh Water Line	<u>8.01"</u>	= <u>203 mm</u>	Fresh Water	<u>112.04"</u> = <u>2846 mm</u>
Tropical Line	<u>7.20"</u>	= <u>183 mm</u>	Tropical	<u>112.85"</u> = <u>2866 mm</u>
Winter Line below	<u>7.20"</u>	= <u>183 mm</u>	Winter	<u>127.25"</u> = <u>3232 mm</u>
Winter North Atlantic Line	✓		Winter North Atlantic	✓

8 JUN 1932

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RECEIVED

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	Stiffeners	...	...	...	...	...	...	...	...
	Brackets, Stays	...	...	...	...	...	...	...	...
HATCH BEAMS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
FORE AND AFTERS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Unsupported Lengths	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
HATCH COVERS	Material	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	How fitted	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...
Number of Tarpaulins	...	...	...	...	...	...	...	...	...

Particulars of fiddle, funnel and ventilator coamings:— *Motorship - No fiddle.*
Vents. to motor room on top of engine casing (7'6" high) in good condition.

Particulars of Flush Bunker Scuttles:— *None fitted.*

Particulars of Companionways:— *L. B. H.*
File. Steel comp. to fore peak store. 3'9" x 2'6 1/2" x 3'8 1/2" ab. wooddeck, steel door at after end to close with two turnbuckles at opposite side of hinges, steel door 31" x 22", sill 9" above wooddeck. (Door can be closed reasonably watertight). Manip. fr. outside only.
Access to crew's quarter through deck house aft having wood doors 4'9" x 2'0", cap. of being manip. fr. both sides and with a sill 16" ab. wooddeck.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
File. 2 off 20" diam 35" above wooddeck x 40" coam.
2 12" 36" x 32" Wood plugs & canvas covers supplied.
Forw. Sal. house 2 x 20" 36" x 40" for all vents.
Aft 4 x 20" 34" x 40"
Aft to crew 10 x 9" 33" x 28"

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
Height of opening above steel deck 37".
Wood plugs & canvas covers supplied for all air pipes.

Particulars of Gangway Cargo and Coaling Ports:— *None fitted.*

Particulars of Scuppers and Sanitary Discharge Pipes —

No scuppers below freeb. deck.
All sanitary disch. pipes are fitted with N.R. Valves and none below second deck.

Particulars of Side Scuttles: *Side lights through ship's sides are fitted with hinged efficient dead lights.*

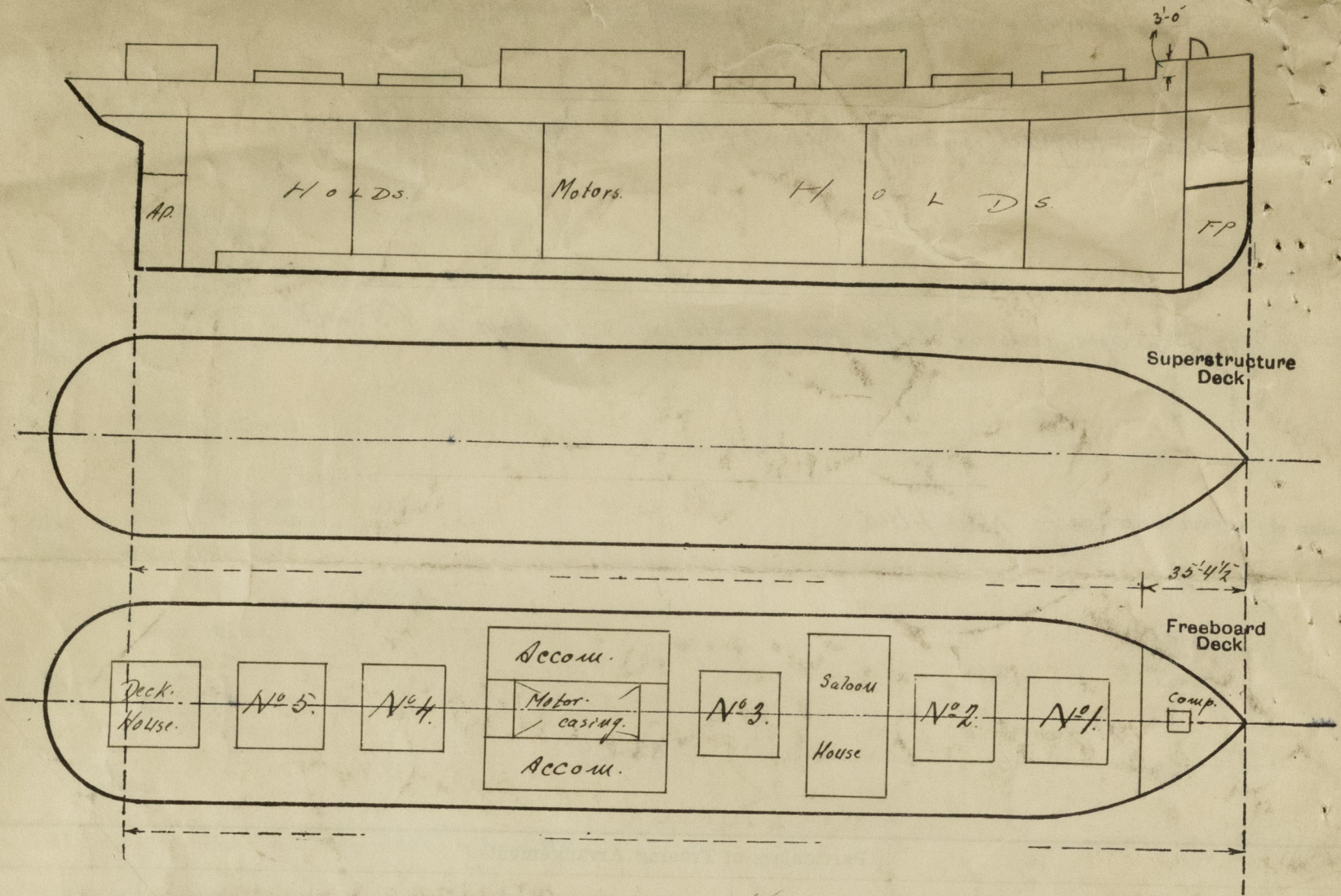
Particulars of Guard Rails:— *Open rails: 3'9" high, four horizontal rods, 9 staunchious sp. 4'3" apart.*

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

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	✓					
Forward Well	✓					
State position of each freeing port (F. and A. position and height above deck edge) { After 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	✓							
Raised Quarter Deck Bulkhead	✓							
Bridge, After Bulkhead	✓							
Bridge, Forward Bulkhead	✓							
Forecastle Bulkhead	38"		4" x 3" x 36"	36"	None	None		3'
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	Casing completely surrounded by steel deck house.							
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	✓							
Raised Quarter Deck Bulkhead	✓							
Bridge, After Bulkhead	✓							
Bridge, Forward Bulkhead	✓							
Forecastle Bulkhead	No openings.							
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	✓							
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 shewn on the following sketches:—



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

Displacement on shell at 70% af. moulded depth:- 13825 Tons, Tons per inch immersion:- 46.0
 " " " 80% " " " :- 15975 " , " " " " :- 46.5
 " " " 90% " " " :- 18135 " , " " " " :- 47.0

at 28.78 mld. $\Delta = \frac{13825}{1022} + \frac{2150 \times 1.83}{3.85}$
14847.

The vessel has at the same time been surveyed on pontoon.

Builder's name and yard number Axt. Burmeister & Wain, Copenhagen. Yard. N^o 315.

Names of sister ships...

Owners. *Aktieb. Svenska. Ostasiatiska. Komp. (G. Borin. Mgr.), Gothenburg.*

Fee ~~¥~~ Kr. 390.00.

Received by me..