

15 MAY 1936

3282

Index. No.
(For London Office only.)

Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Prop. R. Q. D. Bridge & Forecastle

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"POLARIS"	Swedish Stockholm	7457	2163	1890/7

Moulded Dimensions: Length 290.00 Breadth 39.84 Depth 22.50

Moulded displacement at moulded draught = 85 per cent. of moulded depth 4923 tons

Coefficient of fineness for use with Tables .780

Port of Survey Akershus

Date of Survey 6-4-36

Name of Surveyor Thorsten Fjellro

Particulars of Classification 100 A1
1st. Plm. 3rd No. 3-2-28
1st. Hdg No. 1-32

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>22.50</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(22.54 - 19.33) 2.21</u>	Moulded Breadth (B) <u>39.84</u>
Stringer plate <u>.04</u>	= <u>+ 7.16"</u>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>9.56</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>✓</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u>	Ship's Round of Beam = <u>9.50</u>
Depth for Freeboard (D) = <u>22.54</u>	If restricted by superstructures <u>✓</u>	Difference <u>Deficient 3.06</u>
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{3.06^2}{4} \times .1372 = + .10$

X DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	28.60	28.60	7'-0"	✓	28.60
" overhang					
R.Q.D. enclosed	82.00	82.00	4'-0"	$\frac{4.00}{4.533}$	72.36
" overhang					
Bridge enclosed	118.00	106.20	7'-0"		106.20
" overhang aft					
" overhang forward					
F'cle enclosed	33.40	33.40	7'-0"		33.40
" overhang					
Trunk aft					
" forward					
Bonnet opening aft					
" forward					
Total	262.00	250.20			240.56

Standard Height of Superstructure	6.40'
" " R.Q.D.	4.533'
Deduction for complete superstructure	34.67"
Percentage covered $\frac{S}{L} =$	90.35%
" " $\frac{S_1}{L} =$	86.28%
" " $\frac{E}{L} =$	82.96%
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	78.97%
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction = 34.67 x .7897 =	- 27.38"

X SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	39.00	1		39.00	39.50	39.50	1		39.50
$\frac{1}{4}L$ from A.P.	17.36	4		69.44	14.22	14.22	4		56.88
$\frac{2}{4}L$ "	4.29	2		8.58	3.54	3.54	2		7.08
Amidships	✓	4		✓	✓	✓	4		✓
$\frac{3}{4}L$ from F.P.	8.58	2		17.16	9.36	9.36	2		18.72
$\frac{1}{4}L$ "	34.71	4		138.84	37.52	37.52	4		150.08
F.P.	78.00	1		78.00	90.00	90.00	1		90.00
Total				351.02					362.26

Mean actual sheer aft = Deficient > 75%

Mean standard sheer aft

Mean actual sheer forward = Excess

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = > .1L

" " aft of " = > .1L

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{11.24}{18} (.75 - .4517) = -.19"$

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 = 22.54
Summer freeboard = 1.98
Moulded draught (d) = 20.56

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $5\frac{1}{4} = 13\frac{1}{4}\%$
Addition for Winter North Atlantic Freeboard (if required) = 2" = 51%

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$
Tons per inch immersion at summer load water line

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

$\frac{\Delta}{40 T} = 13\frac{1}{4}\%$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	7.16	-
Deduction for superstructures	-	27.38
Sheer correction	-	.19
Round of Beam correction10	-
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	7.26	27.51

Summer Freeboard = 23.71

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc	262
Fresh Water Line " "	131
Tropical Line " "	131
Winter Line below " "	131
Winter North Atlantic Line " "	182

Tropical Fresh Water Freeboard	340
Fresh Water " "	471
Tropical " "	471
Winter " "	733
Winter North Atlantic " "	784

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECK										
Description of Hatchway	No. 2 in	Bunker hatch	1	2	3	4	Br. dk	Br. dk	Br. dk	Prop
Dimensions of Hatchway	bridge of free	bridge space					post +	bulk	2 side	bulk
COAMINGS	Height above Deck ...	9.5"	10"							
	Thickness ...	40"	47"							
	Stiffeners ...	32"	47"							
	Brackets, Stays ...									
Steel	Number ...	2	1							
	Spacing ...	7'	2							
	Scantling and Sketch									
HATCH BEAMS										
	Bearing Surface	11.75' x 5.5'	7.5' x 6.75'							
Wood	Number ...	3								
	Spacing ...	3.5'								
	Unsupported Lengths	7.00'								
	Scantling* and Sketch	2.7' x 7"								
FORE AND AFTERS										
	Bearing Surface	3"								
HATCH COVERS	Material ...	Wood	Wood							
	Thickness ...	2.5"	2.5"							
	How fitted	Shut	Forward							
	Bearing Surface	3"	3"							
Spacing of Cleats		20"	20"							
Number of Tarpaulins		3	3							

*Are wood fore and afters steel shod at all bearing surfaces? *Yes*
 Are battens and wedges efficient and in good condition? *Yes*
 Are tarpaulins in good condition and in accordance with rule requirements? *Yes*
 Are lashings provided in accordance with rule requirements? *Yes*

Particulars of fiddle, funnel and ventilator coamings:— *X*

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:— *X*

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

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

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Scuppers and Sanitary Discharge Pipes

Sanitary discharge pipes led overboard above freeboard deck. No scuppers fitted within bridge grading.

Particulars of Side Scuttles: *X*

Particulars of Guard Rails:— *X*

Particulars of Gangways, Lifelines, etc.:— *X*

Particulars of Freeing Arrangements. <i>X</i>						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well ...						
Forward Well ...						

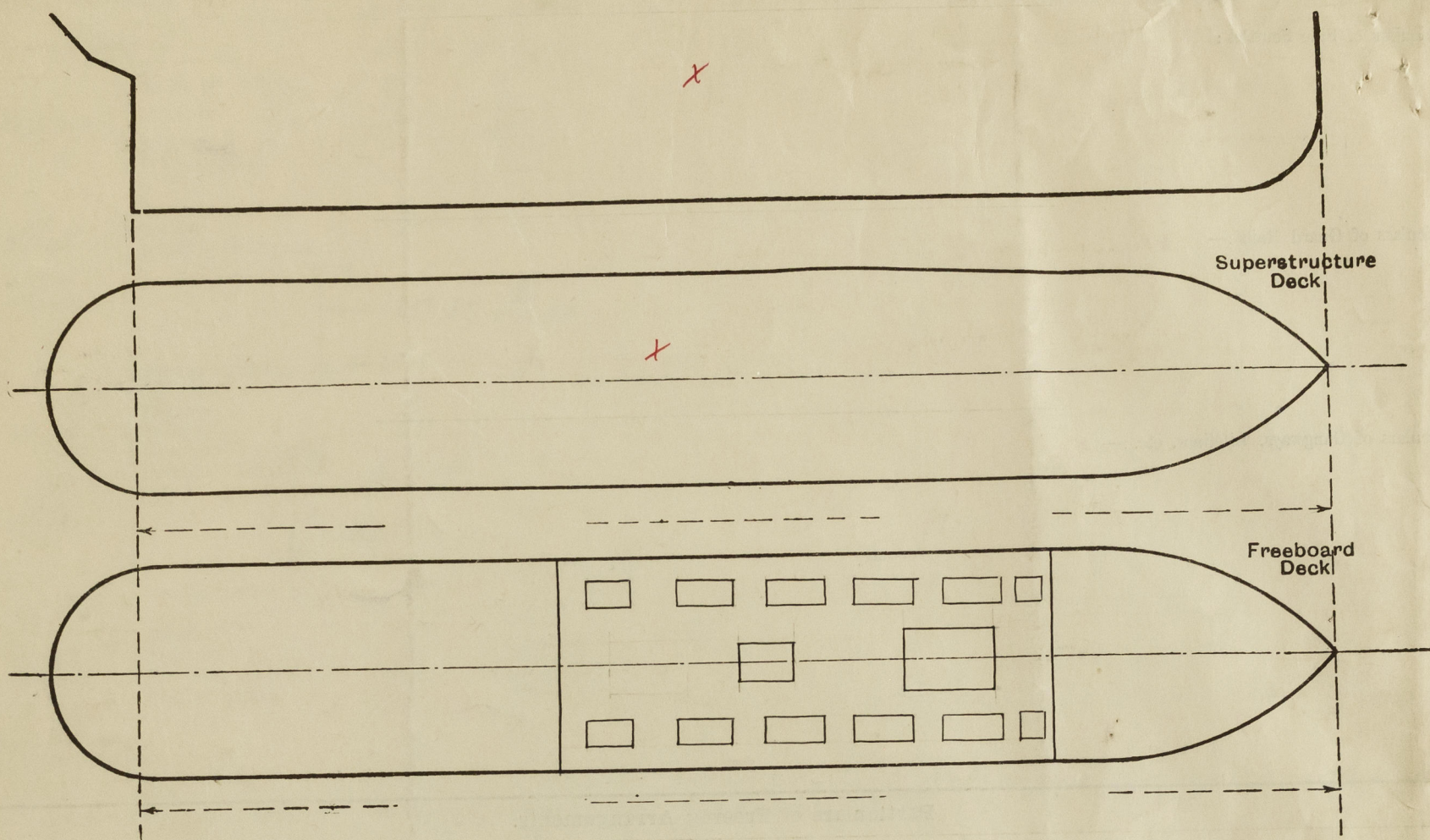
State position of each freeing port ... } After Well:—
 (F. and A. position and height above deck edge) } Forward Well:—
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
 Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses. <i>X</i>								
	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 ...								
Trunk, Aft ...								
Trunk, Forward ...								
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 ...								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ...	<i>No openings</i>
Raised Quarter Deck Bulkhead ...	<i>No openings</i>
Bridge, After Bulkhead ...	<i>2 portable steel doors fastened with hook bolts spaced 5.5" apart and capable of being opened from outside only.</i>
Bridge, Forward Bulkhead ...	<i>1 steel hinged door to crew's quarters + 2 doors to washplains all workable from both sides.</i>
Forecastle Bulkhead ...	<i>B.R. 1 steel hinged door (pass) into B.R. Vents for working ashore. 2 workable each. Workable inside only.</i>
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	<i>No openings</i>
Exposed Machinery Casings on Superstructure Decks ...	<i>No openings</i>
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	<i>No openings</i>
Deckhouses on Flush Deck Ships ...	<i>No openings</i>

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:— 6 escape holes each side in bridge space, closed by portable steel plates. 5" thick. Bolts passing through both plates and deck.

¹³⁴²⁴
x = See Stockholm report of January 30th, 1933.

Builder's name and yard number John Redhead & Sons. S. Shields. N^o 191.

Names of sister ships —

Owners Rederi A/B Iris (E. H. Hansen Mgr.) Stockholm.

Fee ~~£~~ KR: 80.00 :

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