

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~having **FORECASTLE & BRIDGE**

Port of Survey

Date of Survey **23 Jan. 1934**Name of Surveyor **M. J. Barn.**Particulars of Classification **100A1****FIRCREST (4/40)** (Type of Superstructures.)

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

PRERADOVIC**JUGOSLAV****146204****5394****1907**Moulded Dimensions: Length **420.50** Breadth **54.28** Depth **30.75**Moulded displacement at moulded draught = 85 per cent. of moulded depth **12985** tonsCoefficient of fineness for use with Tables **.762**

Depth for Freeboard (D)

Moulded depth ... **30.75**Stringer plate ... **.05**

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = **30.80**

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R = $(30.80 - 28.03) 3.00$
2.77 = + 8.31"(b) Where D is less than Table depth (if allowed)
(Table depth-D) R =

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) **54.28**Standard Round of Beam = $\frac{B \times 12}{50} =$ **13.03"**Ship's Round of Beam = **12.5**Difference **.53" deficient**

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.53}{4} \times \frac{2843}{420.50} = +.04"$

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...	266.5	248.60	8.0		248.60
" overhang aft ...					
" overhang forward	50.49	50.49	7.5		50.49
Fore enclosed ...	44.17	1.84	7.5		1.84
" overhang ...	5.0				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	320.67	300.93			300.93

Standard Height of Superstructure **7'-6"**" " R.Q.D. **✓**Deduction for complete superstructure **42.00"**Percentage covered $\frac{S}{L} =$ **76.25%**" $\frac{S_1}{L} =$ **71.57%**" $\frac{E}{L} =$ **71.57%**

Percentage from Table, Line A.

(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 .6493 = - 27.27"**

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	52.05	1	52.05	48	48.00	1	48.00
$\frac{1}{2}$ L from A.P. ...	23.16	4	92.64	18.17	18.17	4	72.68
$\frac{3}{8}$ L " ...	5.725	2	11.45	4.5	4.50	2	9.00
Amidships ...	✓	4	✓	✓	✓	4	✓
$\frac{3}{8}$ L from F.P. ...	11.45	2	22.90	11.8	11.80	2	23.60
$\frac{1}{2}$ L " ...	46.32	4	185.28	47.4	47.40	4	189.60
F.P. ...	104.10	1	104.10	111	111.00	1	111.00
Total ...	468.45		468.42				453.88

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{4.54}{18} \left(.75 - \frac{3812}{420.50} \right) = +.30"$

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **30.80**Summer freeboard = **5.33**Moulded draught (d) = **25.47**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **6.37 = 6¼**

Addition for Winter North Atlantic Freeboard (if required) =

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{.762 + .65}{1.36} = \frac{1.412}{1.360}$

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ...

77.95**82.65**

+

-

8.31**- 27.27****.30****.04****-****-****-****8.65****27.27****- 18.62**Summer Freeboard = **64.03**

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

Tropical Fresh Water Line above Centre of Disc ...

Fresh Water Line

Tropical Line

Winter Line

Winter North Atlantic Line

12¾" = 324**6½" = 165****6½" = 159****6½" = 159****✓**

Tropical Fresh Water Freeboard ...

Fresh Water

Tropical

Winter

Winter North Atlantic

5'-4" = 1626**4'-3¼" = 1302****4'-9½" = 1461****4'-9¾" = 1467****5'-10¼" = 1785****✓**

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	24'6" x 14'	34' x 18'	15'10" x 14'	24'6" x 14'	24'6" x 14'	16' x 14'	32' x 14'	22' x 14'	6'6" x 2'	6'6" x 2'
COAMINGS										
Height above Deck	30"	30"	30"	30"	30"	20"	11"	11"	20"	20"
Thickness	.5	.5	.46	.46	.46	.46	.46	.46	.46	.46
Sides	.44	.44	.40	.40	.40	.40	.40	.40	.40	.40
Stiffeners	-	-	-	-	-	-	-	-	-	-
Brackets, Stays	-	-	-	-	-	-	-	-	-	-
HATCH BEAMS										
Number	3	4	3	3	3	1	3	3	-	-
Spacing	7'6" x 1/2"	6'9" x 1/2"	7'6" x 1/2"	7'6" x 1/2"	7'6" x 1/2"	8'	8'	8'	-	-
Scantling and Sketch	7" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	17" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	-	-
Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	-	-
FORE AND AFTERS										
Number	3	3	3	3	3	3	3	3	-	-
Spacing	3'6"	4'6"	3'6"	3'6"	3'6"	3'6"	3'6"	3'6"	-	-
Unsupported Lengths	6'10 1/2"	6'5 1/2"	6'10 1/2"	6'10 1/2"	6'10 1/2"	7'6"	7'6"	7'6"	-	-
Scantling and Sketch	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	-	-
Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	-	-
HATCH COVERS										
Material	Pine	Pine	Pine	Pine	Pine	Pine	Pine	Pine	Pine	Pine
Thickness	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
How fitted	7" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"	18" x 3" x 1/4"
Bearing Surface	2"	2"	2"	2"	2"	2"	2"	2"	2"	2"
Spacing of Cleats	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"
Number of Tarpaulins	2	2	2	2	2	2	2	2	2	2

Particulars of fiddle, funnel and ventilator coamings:—

Fiddle gratings fitted with L-shaped steel covers, and a casing 6'-6" high built around fiddle top. Funnel and ventilator coamings of efficient construction. E.R. sky light of steel substantially constructed.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

One on bridge deck at stem built of steel 5'-4" x 5'-8" x 7'-6" high. One steel door fwd. 5'-6" x 2'-5" sill 16" and one wood door on aft side 5'-4" x 2'-2" sill 16". Doors give access to poop space.

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

On forecastle deck ventilator coamings are from 8" to 12" dia. all 24" high. On hull deck coamings are 18" dia. and 38" high. On bridge deck coamings are 12" and 18" dia. 24" x 30" high. All are strongly constructed and provided with wood plugs and canvas covers.

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

On pipes in well deck and on bridge deck are 3" cast iron joints 21" high provided with wood plugs.

Particulars of Gangway Cargo and Coaling Ports:—

One coaling port each p.s. in bridge space. Heavily constructed L-shaped doors 5'-6" x 3'-6" long, secured with bolted strongbacks.

Particulars of Scuppers and Sanitary Discharge Pipes:—

1 each p.s. from forecastle and 1 each p.s. from bridge at 2' space leading below forecastle deck. Pipes fitted with H.R. valves at ship's sides. No secondary means of closing.

Particulars of Side Scuttles:—

All side scuttles below forecastle deck fitted with hinged deadlights of substantial construction.

Particulars of Guard Rails:—

On forecastle and bridge decks, guard rails are 3'-9" with 3 rails. Stanchions pitched at 4'-4".

Particulars of Gangways, Lifelines, etc.:—

Provision made for rigging lifelines in well deck.

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	100 ft.	4'-3"	26" x 16"	7	20.22 sq. ft.	20 sq. ft.

State position of each freeing port:— After Well:— Forward Well:— 7'-2"-19'-10"-28'-10"-40'-50'-10"-61'-72'-82'-8" from bridge deck 18" up. (F. and A. position and height above deck edge) State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Open ports with rails.

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	18" x 7/8"	7/8"	Bulb 9' x 3'	26"	Dep. top of hatch	20'5" x 2'5"	18"	8"
Forecastle Bulkhead	18" x 1/2"	7/8"	4' x 3'	18"	—	6' Wood 8'10" x 2' 3" Steel 4'-6"	18"	7'-6"
Trunk, Aft	—	—	—	—	—	—	—	—
Trunk, Forward	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Superstructure Decks	12" x 1/2"	7/16"	3' x 3'	27"	Alternate bulkheads at top	20'5" x 2' 20'5" x 2'6"	18"	7'-10"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	—	5/16"	3' x 2 1/2'	26"	—	none	—	8"
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	3' shifting boards in 4' x 3' channels, to full height of opening.
Forecastle Bulkhead	Wood and steel doors manipulated from both sides.
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	Steel doors manipulated from both sides.
Deckhouses on Flush Deck Ships	No openings.

