

FEB 1934

Index No. 22018  
(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

534

 Computation of Freeboard for Steamer, Sailing Ship, Tanker  
 having *Forecastle, Bridge & Poop*
Port of Survey *Lusaka*Date of Survey *29/11, 30/11, 1933, 1/12/34*Name of Surveyor *J. A. Olegovic*Particulars of Classification *+100 A1*

(Type of Superstructures.)				
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
KOSTRENA HRVATSKA ✓	Jugoslav Lusaka ✓	✓	492 ✓	1891 ✓ 11 mo
Moulded Dimensions: Length 169 ✓ Breadth 25 ✓ Depth 12.66 ✓				
Moulded displacement at moulded draught = 85 per cent. of moulded depth 883 ✓ tons				
Coefficient of fineness for use with Tables .68 ✓				

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <i>12.66</i>	(a) Where D is greater than Table depth (D-Table depth) R = $(12.66 - 11.27) \times .300$ = + <i>1.85</i>	Moulded Breadth (B) <i>25.00</i>
Stringer plate ... .. <i>.03</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <i>✓</i>	Standard Round of Beam = $\frac{B \times 12}{50} = 6.00$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$		Ship's Round of Beam = <i>6.25</i>
		Difference <i>.25" excess</i>
Depth for Freeboard (D) = <i>12.69</i>	If restricted by superstructures <i>✓</i>	Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.25}{4} \times .2472 = -.021$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ... ..	<i>51.28</i>	<i>51.25</i>	<i>7.28</i>	<i>✓</i>	<i>57.25</i>	Standard Height of Superstructure <i>6.00'</i>
" overhang ... ..	<i>2.87</i>	<i>1.05</i>	<i>7.28</i>	<i>✓</i>	<i>1.05</i>	" " R.Q.D. <i>✓</i>
R.Q.D. enclosed ... ..	<i>1.16</i>					Deduction for complete superstructure <i>22.90"</i>
" overhang ... ..	<i>38.21</i>					Percentage covered $\frac{S}{L} = 82.46\%$ <i>✓</i>
Bridge enclosed ... ..	<i>30.6</i>	<i>28.65</i>	<i>7.28</i>		<i>28.65</i>	" " $\frac{S_1}{L} = 75.08\%$ <i>✓</i>
" overhang aft ... ..	<i>2.61</i>	<i>.75</i>	<i>7.28</i>		<i>.75</i>	" " $\frac{E}{L} = 75.08\%$ <i>✓</i>
" overhang forward ... ..	<i>43.57</i>	<i>43.57</i>	<i>7.28</i>		<i>43.57</i>	Percentage from Table, Line A. (corrected for absence of forecastle (if required)) <i>✓</i>
F'cle enclosed ... ..	<i>3.22</i>	<i>1.61</i>	<i>7.28</i>		<i>1.61</i>	Percentage from Table, Line B. (corrected for absence of forecastle (if required)) <i>69.25%</i>
Trunk aft ... ..						Interpolation for bridge less than 2L (if required) <i>✓</i>
Trunk forward ... ..						Deduction = $22.90 \times .6925 = -15.86"$
Tonnage opening aft ... ..						
" " forward ... ..						
Total ... ..	<i>139.35</i>	<i>126.88</i>			<i>126.88</i>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ... ..	<i>26.90</i>	<i>1</i>	<i>✓</i>	<i>26.90</i>	<i>18</i>	<i>18.00</i>	<i>1</i>	<i>✓</i>	<i>18.00</i>	Mean actual sheer aft = <i>Deficient below 50% standard</i>
$\frac{1}{2}$ L from A.P. ... ..	<i>11.97</i>	<i>4</i>	<i>✓</i>	<i>47.88</i>	<i>5</i>	<i>3.30</i>	<i>4</i>	<i>✓</i>	<i>13.20</i>	Mean actual sheer forward = <i>Excess</i>
$\frac{2}{3}$ L " ... ..	<i>2.96</i>	<i>2</i>	<i>✓</i>	<i>5.92</i>	<i>-1.5</i>	<i>-2.00</i>	<i>2</i>	<i>✓</i>	<i>-4.00</i>	Mean standard sheer forward
Amidships ... ..	<i>✓</i>	<i>4</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>4</i>	<i>✓</i>	<i>✓</i>	Length of enclosed superstructure forward of amidships =
$\frac{2}{3}$ L from F.P. ... ..	<i>5.92</i>	<i>2</i>	<i>✓</i>	<i>11.84</i>	<i>8.5</i>	<i>9.50</i>	<i>2</i>	<i>✓</i>	<i>11.84</i>	" " aft of " =
$\frac{1}{2}$ L " ... ..	<i>23.94</i>	<i>4</i>	<i>✓</i>	<i>95.76</i>	<i>24</i>	<i>27.50</i>	<i>4</i>	<i>✓</i>	<i>95.76</i>	
F.P. ... ..	<i>53.80</i>	<i>1</i>	<i>✓</i>	<i>53.80</i>	<i>52</i>	<i>52.00</i>	<i>1</i>	<i>✓</i>	<i>53.80</i>	
Total ... ..	<i>242.10</i>			<i>242.10</i>					<i>188.60</i>	
Correction = $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{53.50}{18} \left( .75 - .4123 \right) = +1.00"$										
If limited on account of midship superstructure. <i>✓</i>										
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 = *12.69*  
 Summer freeboard = *.44*  
 Moulded draught (d) = *12.25*

 Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = *3.06 = 3"*  
 Addition for Winter North Atlantic Freeboard (if required) = *2"*

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

 $\frac{d}{4} = 3"$ 

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

 Depth Correction ... ..  
 Deduction for superstructures ... ..  
 Sheer correction ... ..  
 Round of Beam correction ... ..  
 Correction for Thickness of Deck amidships ... ..  
 Other corrections, scantlings, etc. ... ..

+	-
<i>1.85</i>	<i>✓</i>
<i>-</i>	<i>15.86</i>
<i>1.00</i>	<i>✓</i>
<i>-</i>	<i>.02</i>
<i>-</i>	<i>✓</i>
<i>-</i>	<i>✓</i>
<i>2.85</i>	<i>15.88</i>

 Summer Freeboard = *5.143*

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

Tropical Fresh Water Line above Centre of Disc ... ..	<i>6" = 152"</i>	Tropical Fresh Water Freeboard ... ..	<i>0'-5 1/4" = 133"</i>
Fresh Water Line " " ... ..	<i>3" = 76"</i>	Fresh Water " " ... ..	<i>0'-0 3/4" = -19" (Minus)</i>
Tropical Line " " ... ..	<i>3" = 76"</i>	Tropical " " ... ..	<i>0'-2 1/4" = 57"</i>
Winter Line below " " ... ..	<i>3" = 76"</i>	Winter " " ... ..	<i>0'-2 1/4" = 57"</i>
Winter North Atlantic Line " " ... ..	<i>5" = 127"</i>	Winter North Atlantic " " ... ..	<i>0'-8 1/4" = 209"</i>
			<i>0'-10 1/4" = 260"</i>



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

		HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS							
		FREEBOARD DECK		SUPERSTRUCTURE DECK					
Description of Hatchway	...	Nº 1	Nº 2	Nº 2					
Dimensions of Hatchway	...	4-0x8-5	7-8x6-11	9-0x6-11					
COAMINGS	Height above Deck	22'	17'	16'					
	Thickness	40'	36'	36'					
	Sides	40'	36'	36'					
	Stiffeners	✓	✓	✓					
	Brackets, Stays	✓	✓	✓					
HATCH BEAMS	Number	1	1	1					
	Spacing	4'-2 1/2"	3'-5 1/2"	3'-5 1/2"					
	Unsupported Lengths	9'-6"	7'-8"	9'-0"					
	Scantling and Sketch	not symmetrical displaced 3"x3"x36"	none	none					
	Bearing Surface	2 3/4"	2 3/4"	2 3/4"					
FORE AND AFTERS	Number	1	1	1					
	Spacing	4'-2 1/2"	3'-5 1/2"	3'-5 1/2"					
	Unsupported Lengths	9'-6"	7'-8"	9'-0"					
	Scantling and Sketch	2 1/2"	2 1/2"	2 1/2"					
	Bearing Surface	2 3/4"	2 3/4"	2 3/4"					
HATCH COVERS	Material	white	pine	teak grating					
	Thickness	2 1/2"	2 1/2"	2 1/2"					
	How fitted	bar	bar	bar					
	Bearing Surface	2"	2"	2"					
	See	1906							
Spacing of Cleats	...	24"	30"	41"					
Number of Tarpaulins	...	2	2	2					

\*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? *on fore-castle Nº 1, 2 hoops forward and aft and 3 at sides, 11-2, 2, 2*

Particulars of fiddle, funnel and ventilator coamings:— *fiddle, funnel and ventilator in efficient condition. Bulkhead with grating, covered by portable steel covers, secured by clips. Engine skylight coaming steel, top and cover teak substantially constructed.*

Particulars of Flush Bunker Scuttles:— *On bridge deck each side one, common cast iron.*

Particulars of Companionways:— *On fore-castle one to crewspace 36"x28" - 40" high, teak, with teak hinged door, sill 6", manipulated from both sides.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— *on fore-castle 2 gunwale vent to WC. diameter 3 3/4" above deck 4 1/2" } without any closing appliances. by wood plugs with chains. " bridge deck 12 " " 16 WC cabins 3 3/4" " 3"-4"*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— *flush at deck with reserved brass cores.*

Particulars of Gangway Cargo and Coaling Ports:— *each side one hinged coaling and ash door 27 1/2"x32" with 2 strong bars.*

## Particulars of Scuppers and Sanitary Discharge Pipes —

*4 WC discharge pipes lead through sides below freeboard deck, with non return valves at ship sides.*

## Particulars of Side Scuttles:—

*No side scuttles under freeboard deck. above freeboard deck scuttles diameter 10" without deadlights.*

## Particulars of Guard Rails:—

*In mild steel bulwark, efficiently constructed and supported. Guard rail on fore-castle and bridge deck 3'-5" high, 3 poles and stanchions spaced about 3'-10" apart.*

## Particulars of Gangways, Lifelines, etc.:—

*Permanent gangway from bridge deck to fore-castle, on starboard side, with handrail only outside, not otherwise supported. and now fitted with a filler (solid round bar 1 1/2" dia.)*

*17 ft 6 in well, deck over*

## 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	8'9 1/2	53	3'-0" x 1'-6" none	2 none	9.59	7.37
Forward Well	20'7 3/4	53	25" x 17"	one	2.94	8.57

State position of each freeing port ... After Well:— none  
 (F. and A. position and height above deck edge) Forward Well:— 35" from bridge front BH. — lower edge 9" above deck  
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— *steel hinged door and one bar*  
 Additional area where sheer is less than standard. ✓

## Particulars of Superstructures, Trunks, Casings, Deckhouses.

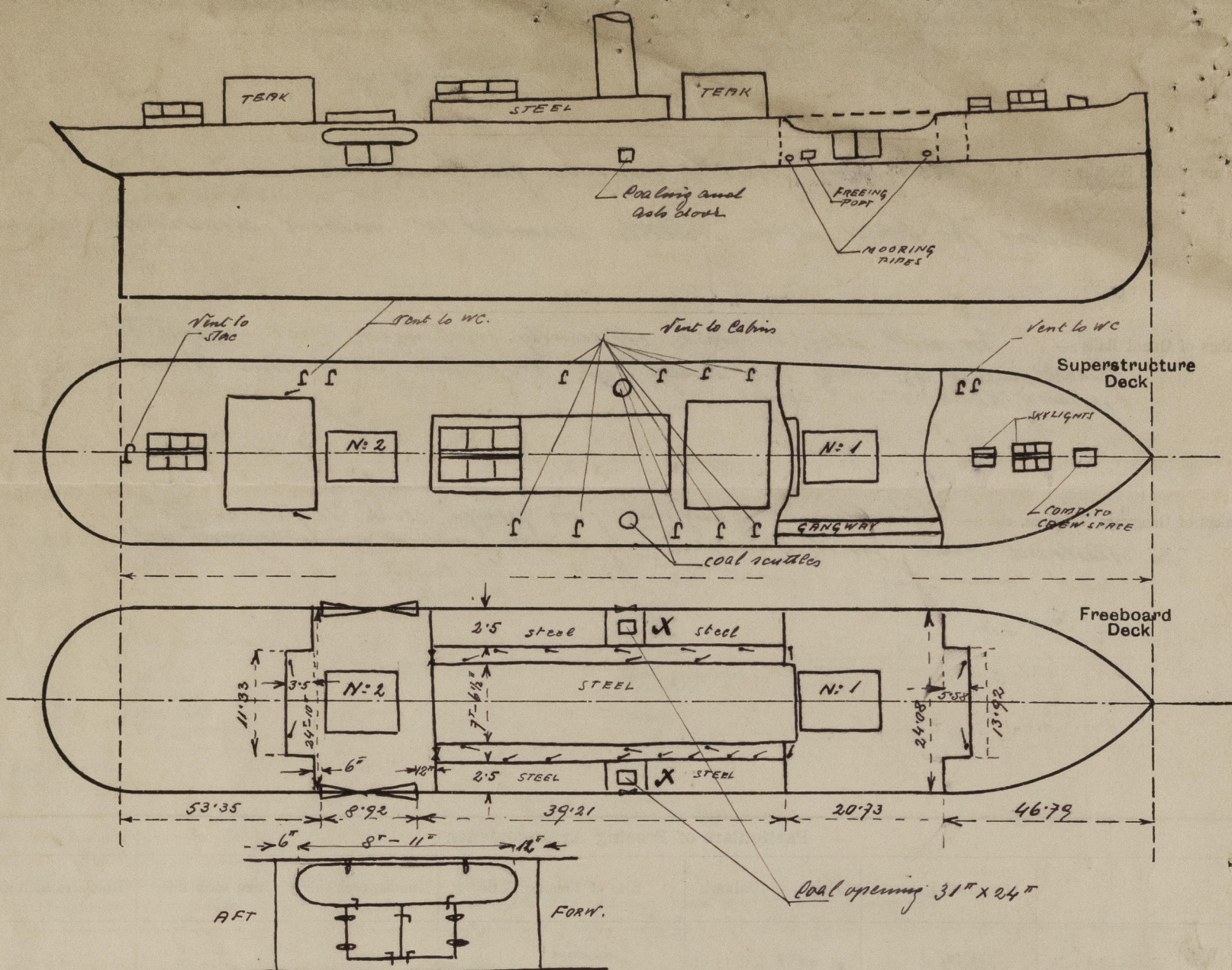
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	28	20	wood sheathed accommodation			65" x 26"	7"	
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	28	20	2 1/2 x 2 1/2 x 32	22	without	60" x 24"	14"	
Bridge, Forward Bulkhead	30	35	3 x 3 x 40	20	without	63" x 23 1/2"	11"	
Fore-castle Bulkhead	30	35	3 x 3 x 32	20	wood sheathed	42" x 24"	10"	
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	25	25	none					23"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	28	20	2 1/2 x 2 1/2 x 32	28	joined at top without attached metal at top	62" x 23" 52" x 19" 29" x 16"	10 1/2" 19" 19"	
Deckhouses on Flush Deck Ships								

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

Poop Bulkhead	2 common teak hinged doors, 1 1/4" thick, manipulated from both sides.
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	2 openings without any closing appliances (walks)
Bridge, Forward Bulkhead	2 strong steel hinged doors, with clips, manip. from both sides (clipping appl. 4:1)
Fore-castle Bulkhead	2 common teak hinged doors, 1 1/4" thick, 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	complete bulkhead. 1 steel hinged door to engine space, manipulated from both sides. 1 " " 16 boiler ash, only outside.
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:—

X: In the side walls within the bridge space each side one steel hinged door 65" x 19" and 9" mill, securely closed with two clips entrance to the coaling opening at freeboard deck, and to coaling and ash doors at ship's side.

The coaling opening on freeboard deck is flush at bulk, without any coaming and closed only with one portable steel cover, without any closing appliances.

Port 53.35 (incl 6" O.H.)  
52.85'  
Recess  $\frac{11.33 \times 3.5}{24.83} = \frac{1.60}{51.25 \text{ equiv}}$   
2.10' O.H.

Forecastle 46.79  
Recess  $\frac{13.92 \times 5.58}{24.08} = \frac{3.22}{43.57 \text{ equiv}}$

Builder's name and yard number *Hervallts merke* N: 241

Names of sister ships

Owners *Jadrianska Ploviala D.D.*

Fee *Binars 16.50-*

Received by me



© 2021

Lloyd's Register  
Foundation