

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. **28698**  
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Forecastle, Bridge and Raised Quarter Deck Port of Survey London

(Type of Superstructures.)

Ship's Name  
**ORTOLAN**

Nationality and Port of Register  
British London

Official Number  
144191

Gross Tonnage  
489

Date of Build  
1920-3

Date of Survey 4<sup>th</sup> Aug 1932 80

Name of Surveyor Thomas E. Snowden

Moulded Dimensions: Length 100.25 Breadth 25.0 Depth 11.9

Moulded displacement at moulded draught = 85 per cent. of moulded depth 828 tons

Coefficient of fineness for use with Tables 724

Particulars of Classification **100 A1.**  
S.S. Lon. No. 2-28

Depth for Freeboard (D)

Moulded depth ... .. 11.75

Stringer plate 36 ... .. .03

Sheathing on exposed deck

$T \left( \frac{L-S}{L} \right) =$  ✓

Depth for Freeboard (D) = 11.78

Depth correction

(a) Where D is greater than Table depth  
(D-Table depth) R = (11.78 - 10.68) 1.233 = + 1.36

(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) 25.0

Standard Round of Beam =  $\frac{B \times 12}{50} =$  6.0

Ship's Round of Beam = 6.5

Difference .5

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.5}{4} (1 - \frac{.7791}{11.78}) = -.03$

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ... ..						Standard Height of Superstructure <u>6'-0"</u>
" overhang ... ..						" " R.Q.D. <u>3.402</u>
R.Q.D. enclosed ... ..	<u>91.64</u>	<u>91.52</u>	<u>3-6"</u>	<u>✓</u>	<u>91.52</u>	Deduction for complete superstructure <u>22.02</u>
" overhang ... ..						Percentage covered $\frac{S}{L} =$ <u>78.66</u>
Bridge enclosed ... ..	<u>10-10 1/2</u>	<u>10.87</u>	<u>7-0"</u>	<u>✓</u>	<u>10.87</u>	" " $\frac{S_1}{L} =$ <u>77.91</u>
" overhang aft ... ..						" " $\frac{E}{L} =$ <u>77.91</u> ✓
" overhang forward ... ..	<u>21.24</u>					Percentage from Table, Line A. <u>✓</u>
F'cle enclosed <u>✓</u> <u>25-8</u> ... ..	<u>25-8</u>	<u>21.24</u>	<u>7-0"</u>		<u>21.24</u>	(corrected for absence of forecastle (if required))
" overhang } ... ..	<u>2-43</u>	<u>1.21</u>			<u>1.21</u>	Percentage from Table, Line B. <u>72.72</u> ✓
Trunk aft ... ..						(corrected for absence of forecastle (if required))
" forward ... ..						Interpolation for bridge less than 2L (if required) <u>✓</u>
Tonnage opening aft ... ..						Deduction = <u>22.02 × 72.72 = -16.01</u> ✓
" " forward ... ..						
Total ... ..	<u>126.06</u>	<u>124.84</u>			<u>124.84</u>	

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ... ..	<u>26.025</u>	1		<u>26.02</u>	<u>42</u>	<u>42.0</u>	<u>43.18</u>	1	<u>43.18</u>	Mean actual sheer aft = <u>EXCESS.</u>
1/4 L from A.P. ... ..	<u>11.58</u>	4		<u>46.32</u>	<u>20 1/2</u>	<u>20.54</u>	<u>20.54</u>	4	<u>82.16</u>	Mean actual sheer forward = <u>EXCESS.</u>
1/2 L " ... ..	<u>2.86</u>	2		<u>5.72</u>	<u>0 1/2</u>	<u>5.13</u>	<u>5.13</u>	2	<u>10.26</u>	Mean standard sheer forward
Amidships ... ..	-	4		-	-	-	-	4	-	Length of enclosed superstructure forward of amidships = <u>&gt; 1L.</u>
3/4 L from F.P. ... ..	<u>5.72</u>	2		<u>11.44</u>	<u>9 1/2</u>	<u>8.09</u>	<u>8.09</u>	2	<u>16.18</u>	" " aft of " = <u>.5L.</u>
1/4 L " ... ..	<u>23.16</u>	4		<u>92.64</u>	<u>32 1/2</u>	<u>32.38</u>	<u>32.38</u>	4	<u>129.52</u>	SHEER AFT INCREASED BY VIRTUE OF INTACT R.Q.D.
F.P. ... ..	<u>52.05</u>	1		<u>52.05</u>	<u>66 1/2</u>	<u>69.0</u>	<u>69.00</u>	1	<u>69.00</u>	HAVING A HEIGHT IN EXCESS OF STANDARD
Total ... ..				<u>234.19</u>					<u>350.30</u>	
Correction = $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{116.11}{18} \left( .75 - \frac{.3933}{2} \right) = -2.30$ ✓										
If limited on account of midship superstructure. <u>✓</u> If limited to maximum allowance of 1 1/2 ins. per 100 ft. <u>✓</u>										

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 15.78

Summer freeboard = 3.67

Moulded draught (d) = 18.61

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 2.90 + 3

Addition for Winter North Atlantic Freeboard (if required) = 2

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$  994

Tons per inch immersion at summer load water line

$T =$  7.9

Deduction =  $\frac{\Delta}{40T}$  inches = 3.15

= 3 1/4

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{724 + 68}{1.36} \frac{1.404}{1.36}$

Depth Correction ... .. 1.36

Deduction for superstructures ... .. 16.01

Sheer correction ... .. 2.30

Round of Beam correction ... .. .03

Correction for Thickness of Deck amidships 42.00

Other corrections, scantlings, etc. ... ..

43.36 18.34 + 25.02

Summer Freeboard = 42.50

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, <u>RAISED QUARTER</u> <u>Wood, Steel, Deck</u> :-							
Tropical Fresh Water Line above Centre of Disc ...	<u>3 1/4</u>			Tropical Fresh Water Freeboard ...	<u>3'-8"</u>	LIMITED	
Fresh Water Line " " ...	<u>3 1/4</u>			Fresh Water " " ...	<u>3'-4 1/2</u>		
Tropical Line " " ...	<u>NIL</u>			Tropical " " ...	<u>3'-4 1/2</u>		
Winter Line below " " ...	<u>3</u>			Winter " " ...	<u>3'-8"</u>	LIMITED	
Winter North Atlantic Line " " ...	<u>5</u>			Winter " " ...	<u>3'-11</u>		
				Winter North Atlantic " " ...	<u>4'-1</u>		



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	h <sup>o</sup> 1 U.D.		h <sup>o</sup> 2 RQD				
Dimensions of Hatchway	...	...	27'3" x 16'		28'9" x 16'				
COAMINGS	{	Height above Deck	...	3'-6"		3'-0"			
		Thickness	Sides	...	44		44		
			Ends	...	44		44		
		Stiffeners	...	7" B.A.		7" B.A.			
		Brackets, Stays	...	2		2			
HATCH BEAMS	{	Number	...	5		5			
		Spacing	...	4'-6 1/2"		4'-9 1/2"			
		Scantling and Sketch	...	3 1/2 x 3 x 32		As. No. 1			
			...	14 x 32					
			...	3 1/2 x 3 x 32					
Bearing Surface	...	3"		3"					
FORE AND AFTERS	{	Number	...	/		/			
		Spacing	...	/		/			
		Unsupported Lengths	...	/		/			
		Scantling* and Sketch	...	/		/			
		Bearing Surface	...	/		/			
HATCH COVERS	{	Material	...	Pine		As. No. 1			
		Thickness	...	2 1/2"					
		How fitted	...	F & A					
		Bearing Surface	...	3 1/2"					
Spacing of Cleats	...	...	...	24"		As. No. 1			
Number of Tarpaulins	...	...	...	3					
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>Yes</i></p> <p>Are battens and wedges efficient and in good condition? <i>Yes</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>Yes</i></p> <p>Are lashings provided in accordance with rule requirements? <i>Yes</i></p>									

Particulars of fiddle, funnel and ventilator coamings:—

*Fiddle gratings fitted with fixed hinged plate covers ✓*  
*E. Rm Skylights steel, strongly constructed ✓*  
*Ventilators & funnel coamings in good order ✓*

Particulars of Flush Bunker Scuttles:—

*None ✓*

Particulars of Companionways:—

*1 Companionway in Steel house on Bridge leading to accommodation with hinged wood door 4'-6" x 2', sill 18" operated from both sides ✓*

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

*Ycle:- 2 at 6' x 10' high to Accm. ✓*  
*Well B:- 1 at 9' x 36" " " Hold ✓*  
*Bridge:- 3 m.v.s at 6' x 7" " " Accm. ✓*  
*R.Q.D. 1 at 9' x 36" " " Hold. ✓*  
*Ventilators fitted with wood plugs & canvas covers ✓*

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

*Ycle B:- 1 at 3' x 7" high to Peak ✓*  
*Well B:- 1 at 4' x 27" " " DBS. ✓*  
*R.Q.D. 2 at 3' x 9" " " " A.P. ✓*  
*1 at 3' x 9" " " " A.P. ✓*  
*No closing appliances fitted*

Particulars of Gangway Cargo and Coaling Ports:—

*None ✓*



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Artolan

Particulars of Scuppers and Sanitary Discharge Pipes:—

Discharges led below W.D. forward, & below R.O.D aft and fitted with Storm valves at side. ✓

Particulars of Side Scuttles:—

All Side Scuttles fitted with fixed or portable deadlights ✓

Particulars of Guard Rails:—

File 3'-3" high with 2 rods, & stanchions 4'-6" apart. ✓

Particulars of Gangways, Lifelines, etc.:—

Crew in Forecastle:— Stanchions & SW rails fitted at side of the hatch and platform provided on hatch top in Fore Well. ✓

R.O.D. no provision made ✓

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 ... ..	91'-6"	36"	4'-6" x 9" 28" x 15"	3 } 6	8.75 <del>18 1/4</del>	18.3 ✓
Forward Well ... ..	<del>33'-11 1/2"</del> 34'-2 1/4"	42"	30" x 17" <del>35'</del> 35' x 7' + 73'	3	10.63.	99. ✓

State position of each freeing port ... .. } After Well:— 8' 27" + 46" from Bridge ; Sill 4'-  
(P. and A. position and height above deck edge) } Forward Well:— 3', 16, & 27 1/2" " " Sill 9'-

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—

2 bars to each port. ✓

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 ...								3'-6" ✓
Bridge, After Bulkhead ... ..	30	26	3 1/2 x 3 1/2 x 32	30" ✓	—	—	—	7'-0" ✓
Bridge, Forward Bulkhead ... ..	32	30	6 x 3 x 35	30" ✓	Bridge Top & Bottom	—	—	7'-0" ✓
Forecastle Bulkhead ... ..	42" x 30	26	3 x 3 x 34	30" ✓	none	1 @ 27" x 4'-6" 2 @ 22" x 4'-6"	21" 18" ✓	7'-0" ✓
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Fore- board or Raised Quarter Decks ...	30" x 32	30	3 x 3 x 34	30" ✓	Brac's at top	2 @ 3' x 2'-6" 2 @ 4'-6" x 2'	30" 18" ✓	7'-0" ✓
Exposed Machinery Casings on Super- structure Decks ... ..								
Machinery Casings within Superstruc- tures 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 ... ..	—
Exposed Machinery Casings on Fore- board or Raised Quarter Decks ...	6 " " " " " " " " ✓
Exposed Machinery Casings on Super- structure Decks ... ..	—
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances ... ..	—
Deckhouses on Flush Deck Ships ...	—

Hinged Steel doors operated from both sides ✓



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Hand-drawn technical drawing of a ship's hull and deck layout, showing three views: a side elevation, a plan view of the Superstructure Deck, and a plan view of the Freeboard Deck.

**Side Elevation (Top):** Shows the hull profile with various compartments labeled "E.R.", "B.R.", "Nº.2", and "Nº.1". Dimensions include 7' and 7'.

**Superstructure Deck (Middle):** Shows the layout of the upper deck with compartments labeled "E.R.", "B.R.", "C", "Nº.2", and "Con". Dimensions include 91'-6 $\frac{1}{4}$ " and 10'-10 $\frac{1}{2}$ ".

**Freeboard Deck (Bottom):** Shows the layout of the lower deck with compartments labeled "Nº.1" and "Nº.2". Dimensions include 35'-11 $\frac{1}{2}$ " (corrected to 34'-2 $\frac{1}{4}$ " in red), 23'-8", 10'-0", 4'-7 $\frac{1}{2}$ ", and 11'-3".

FORECASTLE.

ENCLOSED =  $19' - 0\frac{1}{2}" = 19.04$

$\frac{4.62 \times 5.12}{10.75} = \frac{2.201}{21.24}$

$\frac{2.201}{23.67}$

OVERHANG =  $2.43$

Small Hatches:-

1 " " " " Chamber 21" x 15" " " " " " "

1 on R.Q.D. to After Peak:- 18" diam x 18" high with bolted plate cover. ✓

This survey has been carried out in conjunction with the Complete Special Survey R's.

Builder's name and yard number: *J. Lewis & Sons Ltd* *Regd*

Names of sister ships

Owners *General Steam Nav. Co. Ltd.*

Fee £ 5 : 2 : 0 Received by me. *9/8.32*

Received by me.