

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

No. 99938.

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

(Type of Superstructures.)

Ship's Name <b>"EL PARAGUAYO"</b>	Nationality and Port of Registry <b>BRITISH LIVERPOOL</b>	Official Number <b>131434</b>	Gross Tonnage <b>8508</b>	Date of Build <b>1912</b>
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Moulded Dimensions: Length **440.0** Breadth **58.9** Depth **35.7.38.08**  
Moulded displacement at moulded draught = 85 per cent. of moulded depth **18625** tons  
Coefficient of fineness for use with Tables **.781**

Port of Survey **LIVERPOOL**  
Date of Survey **Commencing 24: 2:32 and Subsequently**  
Name of Surveyor **J. V. Maledon**  
Particulars of Classification **PS. 100A1: Shelter. Deck with freeboard.**

<p>Depth for Freeboard (D) <b>38.08</b></p> <p>Moulded depth <b>(38.13 - 29.33) = 8.80</b></p> <p>Stringer plate ... <b>.05</b></p> <p>Sheathing on exposed deck <math>T \left( \frac{L-S}{L} \right) =</math> <b>.60</b></p> <p>Depth for Freeboard (D) = <b>38.13</b></p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth (D - Table depth) R = <b>(38.13 - 29.33) x 3 = +26.40</b></p> <p>(b) Where D is less than Table depth (if allowed) (Table depth - D) R =</p> <p>If restricted by superstructures</p>	<p>Round of Beam correction</p> <p>Moulded Breadth (B) <b>58.9</b></p> <p>Standard Round of Beam = <math>\frac{B \times 12}{50} =</math> <b>14.08</b></p> <p>Ship's Round of Beam = <b>14.5</b></p> <p>Difference <b>.42</b></p> <p>Restricted to</p> <p>Correction = <math>\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) =</math> <b>.42 x .626 = .26</b></p>
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## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	<b>132.75</b>	<b>132.75</b>	<b>8'-0"</b>	<b>1</b>	<b>132.75</b>
" overhang aft ...					
" overhang forward	<b>2'-5.42</b>	<b>1.21</b>			<b>1.21</b>
Fore enclosed open	<b>36.75</b>	<b>30.59</b>	<b>7'-4"</b>	<b>x .23</b>	<b>29.90</b>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	<b>141.92</b>	<b>164.55</b>			<b>163.86</b>

Standard Height of Superstructure **7.50**

" " R.Q.D. **✓**

Deduction for complete superstructure **42.00**

Percentage covered  $\frac{S}{L} =$  **39.04**

" "  $\frac{S_1}{L} =$  **34.40**

" "  $\frac{E}{L} =$  **34.24**

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

Percentage from Table, Line B.  
(corrected for absence of forecastle (if required)) **25.15**

Interpolation for bridge less than 2L (if required)

Deduction = **42.00 x .2515 = - 10.56**

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<b>54.00</b>	<b>1</b>	<b>54.00</b>	<b>45</b>	<b>45.00</b>	<b>45.00</b>	<b>1</b>	<b>45.00</b>	<b>45.00</b>
$\frac{1}{2}$ L from A.P. ...	<b>24.03</b>	<b>4</b>	<b>96.12</b>	<b>20</b>	<b>19.75</b>	<b>19.75</b>	<b>4</b>	<b>79.00</b>	<b>79.00</b>
$\frac{2}{3}$ L " ...	<b>6.94</b>	<b>2</b>	<b>11.88</b>	<b>5.5</b>	<b>4.94</b>	<b>4.94</b>	<b>2</b>	<b>9.88</b>	<b>9.88</b>
Amidships ...	<b>✓</b>	<b>4</b>	<b>✓</b>	<b>0</b>	<b>✓</b>	<b>✓</b>	<b>4</b>	<b>✓</b>	<b>✓</b>
$\frac{2}{3}$ L from F.P. ...	<b>11.88</b>	<b>2</b>	<b>23.76</b>	<b>1</b>	<b>9.94</b>	<b>9.94</b>	<b>2</b>	<b>19.94</b>	<b>19.94</b>
$\frac{1}{2}$ L " ...	<b>48.06</b>	<b>4</b>	<b>192.24</b>	<b>38</b>	<b>39.90</b>	<b>39.90</b>	<b>4</b>	<b>159.60</b>	<b>159.60</b>
F.P. ...	<b>108.00</b>	<b>1</b>	<b>108.00</b>	<b>90</b>	<b>90.00</b>	<b>90.00</b>	<b>1</b>	<b>90.00</b>	<b>90.00</b>
Total ...			<b>486.00</b>					<b>403.42</b>	

Mean actual sheer aft = **Deficient**  
Mean standard sheer aft =

Mean actual sheer forward = **Deficient 83.25%**  
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = **.302 L**

" " aft of " =

Sheer forward for open deck

	Standard	Actual
11.88	3 35.64	9.94 3 29.91
48.06	3 144.18	39.90 3 119.70
108.00	1 108.00	90.00 1 90.00
	<b>287.82</b>	<b>239.61</b>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) =$  **.554 x (.45 - .1953) = +2.54**

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <b>38.13</b></p> <p>Summer freeboard = <b>9.04</b></p> <p>Moulded draught (d) = <b>29.09</b></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = <math>\frac{d}{4}</math> inches = <b>7.27 = 7.27</b></p> <p>Addition for Winter North Atlantic Freeboard (if required) =</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line <math>\Delta =</math> <b>16,600</b></p> <p>Tons per inch immersion at summer load water line <math>T =</math> <b>53.4</b></p> <p>Deduction = <math>\frac{\Delta}{40T}</math> inches = <b>.77</b></p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient <b>.781 x .68 = .531</b></p> <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td><b>26.40</b></td> <td><b>✓</b></td> </tr> <tr> <td>Deduction for superstructures ...</td> <td><b>10.56</b></td> <td><b>✓</b></td> </tr> <tr> <td>Sheer correction ...</td> <td><b>2.54</b></td> <td><b>✓</b></td> </tr> <tr> <td>Round of Beam correction ...</td> <td><b>.04</b></td> <td><b>✓</b></td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td><b>✓</b></td> <td><b>✓</b></td> </tr> <tr> <td>Other corrections, scantlings, etc. ...</td> <td><b>✓</b></td> <td><b>✓</b></td> </tr> <tr> <td></td> <td><b>28.94</b></td> <td><b>10.63</b></td> </tr> </table> <p>Summer Freeboard = <b>108.55</b></p>		+	-	Depth Correction ...	<b>26.40</b>	<b>✓</b>	Deduction for superstructures ...	<b>10.56</b>	<b>✓</b>	Sheer correction ...	<b>2.54</b>	<b>✓</b>	Round of Beam correction ...	<b>.04</b>	<b>✓</b>	Correction for Thickness of Deck amidships ...	<b>✓</b>	<b>✓</b>	Other corrections, scantlings, etc. ...	<b>✓</b>	<b>✓</b>		<b>28.94</b>	<b>10.63</b>
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## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel Deck:

	15"	14"	13"	12"	11"	10"	9"	8"	7"	6"	5"	4"	3"	2"	1"
Tropical Fresh Water Line above Centre of Disc	<b>15"</b>	<b>14"</b>	<b>13"</b>	<b>12"</b>	<b>11"</b>	<b>10"</b>	<b>9"</b>	<b>8"</b>	<b>7"</b>	<b>6"</b>	<b>5"</b>	<b>4"</b>	<b>3"</b>	<b>2"</b>	<b>1"</b>
Fresh Water Line	<b>14"</b>	<b>13"</b>	<b>12"</b>	<b>11"</b>	<b>10"</b>	<b>9"</b>	<b>8"</b>	<b>7"</b>	<b>6"</b>	<b>5"</b>	<b>4"</b>	<b>3"</b>	<b>2"</b>	<b>1"</b>	
Tropical Line	<b>13"</b>	<b>12"</b>	<b>11"</b>	<b>10"</b>	<b>9"</b>	<b>8"</b>	<b>7"</b>	<b>6"</b>	<b>5"</b>	<b>4"</b>	<b>3"</b>	<b>2"</b>	<b>1"</b>		
Winter Line below	<b>12"</b>	<b>11"</b>	<b>10"</b>	<b>9"</b>	<b>8"</b>	<b>7"</b>	<b>6"</b>	<b>5"</b>	<b>4"</b>	<b>3"</b>	<b>2"</b>	<b>1"</b>			
Winter North Atlantic Line	<b>11"</b>	<b>10"</b>	<b>9"</b>	<b>8"</b>	<b>7"</b>	<b>6"</b>	<b>5"</b>	<b>4"</b>	<b>3"</b>	<b>2"</b>	<b>1"</b>				



El. Paraguayo

## HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Particulars of fiddle, funnel and ventilator coverings:—  
 Bulkhead Hatch—14'0" x 11'0" with 18" plate coaming and  
 3" coze stiffener. Permanent three strips hatch beam  
 in Centre. 6" Bull with end Bts. Wood hatch. Fva.  
 and special battering arrangement:  
 Class: 2d.

Stokholm gratings covered by strong steel covers. (hinged).  
 Fiddle and Bulkhead plates in efficient condition. Engine Room skylight of steel and  
 strongly constructed.  
 Galley skylight of steel with strong and efficient steel flaps.

"None" ✓

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

Wood plugs and canvas covers are on board for all units. ✓

[illegible]

"None" ✓

e Pipes — All scuppers and Sanitary Discharge pipes are fitted with gunmetal storm valves at ship's side. (For deck scuppers in gunwale bar see sketch page 4.)

All side scuttles below foreboard deck are fitted with louvered deadlights.  
All side scuttles are of substantial construction.

Guava Rails on Fcile No 45" high leaving 3 Roads stanchions spaced 32' apart. ✓  
 " " " Ford Well. 46" " " 4 " " " 51' apart. ✓  
 " " " Buage Sk. 45" " " 4 " " " 54" " ✓  
 " " " Alt Well: 45" " " 4 " " " 51" " ✓

Suitable provision made for rigging  
lifelines - the forward rafters deck  
for the use of the crew

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 ... ..			open Rails ✓			
Forward Well ... ..			open Rails ✓			

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 : open Rails ✓

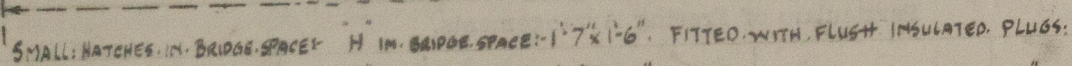
Additional area where sheer is less than standard.

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 ...	Vertical					$4'-10\frac{1}{2}" \times 2'-11"$ ✓ $5'-11" \times 3'-0"$ ✓ $5'-1\frac{1}{2}" \times 3'-0"$ ✓ $4'-11" \times 2'-5"$ ✓	$16\frac{1}{2}"$ ✓ $18\frac{1}{2}"$ ✓ $16\frac{1}{2}"$ ✓ $19"$ ✓	8'-0" ✓
Bridge, After Bulkhead ...		5/20"	4" 3" x 3/8" OA. ✓	3'-9"				
Bridge, Forward Bulkhead ...	9/20" ✓	9/20" ✓		2'-6" ✓		2 @ 3'-0" x 3'-9" ✓	18 1/2" ✓	8'-0" ✓
Forecastle Bulkhead ... ..	Vertical ✓	6/20" ✓	3" x 3" x 3/8" OA.	4'-4" + 4'-1"	None.	2 @ 4'-6" x 2'-0" ✓	18" ✓	7'-4"
Trunk, Aft ... ..								
Trunk, Forward ... ..								
<del>Exposed Machinery Casings on Free-board or Raised Quarter Decks ...</del>	<del>9/20"</del>	<del>7/20"</del>	<del>3" x 3" x 3/8" OA. DOUBLE.</del>	<del>4'-6"</del>	<del>Top 15" x 16" with LUGS.</del>	$15 @ 53" \times 26\frac{1}{2}"$ ✓ $15 @ " \times "$ ✓ $15 @ 56" \times 22\frac{1}{2}"$ ✓ $15 @ " \times "$ ✓	$15"$ ✓ $"$ ✓ $13"$ ✓ $"$ ✓	$7'-3"$ ✓ $7'-3"$ ✓
Exposed Machinery Casings on Super-structure Decks ... ..	Horizontal PLATING.	4/20"						
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..								
Deckhouses on Flush Deck Ships ...								

Poop Bulkhead <i>None</i>	...	Wood doors, strongly constructed, with locks, and capable of being operated from both sides. ✓
Entrance to Poop	...	✓
Raised Quarter Deck Bulkhead	...	
Bridge, After Bulkhead	...	All steel doors with locks, and capable of being operated from both sides. ✓
Bridge, Forward Bulkhead	...	Steel doors with turnbuckles and strong hinges: Capable of being operated from both sides. ✓
Forecastle Bulkhead	...	Steel door, strongly constructed; with lock, and capable of being operated from both sides. ✓
Exposed Machinery Casings on Fore-board or Raised Platform Decks	...	<del>Steel door, strongly constructed; with lock, capable of being operated from both sides.</del>
Exposed Machinery Casings on Superstructure Decks	...	Entrances to Fiddly Steel door; Entrances to Engine Room Wood door, locks, and capable of being operated from both sides: all strongly constructed and efficient. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	
Deckhouses on Flush Deck Ships	...	



A hand-drawn plan of the lower deck of the ship 'H.M.S. 'Albatross''. The drawing shows the layout of the deck with various compartments and structures. At the bow (left), there is a 'CREW' compartment and a 'STORE' compartment. Moving aft, there is a 'TUNNEL' and a 'REAR DECK' area. The main deck is divided into several large sections: 'ENGINE RM.', 'BUNKER', 'BOILER RM.', 'COAL', and 'COAL'. There are also 'TANKS' and 'FORE PEAK TANK' at the stern. The drawing includes various labels for structures like 'M', 'C STAR', 'COAL', 'MOON', 'CREW', 'STORES', 'CHAIH', 'S', 'FORE PEAK TANK', and 'D: B'. The drawing is a plan view, showing the layout of the deck from above.



Inside  
closed bridge.  
(Class I appliances at  
fore & after ends

State any special features in the construction of the ship:

- (2) Tunnel escape hatch steel casing through poop house: led to poop deck over with steel vertical access door opening into poop house: Door:  $94\frac{1}{2} \times 24 \times 38$  with 6" sill. Coaming with coral on Poop Top: Coaming 17" high and  $23\frac{1}{4}$ " Diameter.
- (\*) 1 Access Hatch to each main hatch:  $2'3" \times 22' \times 3\frac{1}{8}"$  Coamings: 28" high. 3" cope stiffen around top: Hatches united to deck, wood plugs, cleats, tarpaulins and efficient battering arrangement.
- (7) Bunker Hatch on Boat deck:  $10'0" \times 5'11\frac{3}{8}" \times 3'2"$  High Fitted with efficient cleats, tarpaulins and battering arrangement.

HATCH: "A"				UNDER. P.C.E. NO. 4-2"x3'-5" COAMING. 6/2"x3/8"				FITTED WITH CLEATS, COVERS AND TARPULINS.				LED. TO. STORES.			
"1"	"B"	"	"	5'-6"x2'-6"	"	6" WOOD:	"	"	COVERS. AND. TARPULINS. AND. LOCKING. BAR.	"	"	"	"		
"2"	"C"	BRIDGE. DK.	"	4'-1"x3'-5"	"	27/2"x3/8"	"	"	CLEATS. COVERS. AND. TARPULINS.	✓	"	"	PORT. INS. <sup>4</sup> BETWEEN STAIRS. TRUNKED TO. BUNKERS.		
"1"	"D"	FREBOARD. "AFT.	"	3'-6"x2'-8"	"	12" BULBA:	"	"	"	✓	"	"	STORES.		
"1"	"E"	"	DK.	3'-7"x3'-1"	"	3" OA.	"	"	COVERS. TARPULINS & LOCKING. BARS.	✓	"	"	PROVISION. ROOM.		
"1"	"F"	"	"	2'-3 1/2"x2'-0 1/2"	"	3" OA.	"	"	FLUSH. INSULATED. PLUG:	✓	"	"	LOWER. BRINE. ROOM.		
"1"	"G"	"	"	2'-0"x1'-10"	"	3" OA:	"	"	STEEL HINGED. COVER. Y TURN BUCKLE.	✓	"	"	ESCAPE. HATCH. FROM. BUNKER.		
"2"	"N"	BRIDGE. DK.	"	4'-1"x3'-5"	"	27/2"x3/8"	"	"	CLEATS. COVERS. AND. TARPULINS:	✓	"	"	LED. TO. BRIDGE. SHELTER. BETWEEN. DKs.		

Names of sister ships

WRETS

HOULDER: LINE. LTD:

Fee £ 16. : 3. : 0.

Received by me