

Rpt. C.11.

Index. No.

31426

(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

No 100358.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Rania Lumber Deck & Bridge 11x on R.Q.D. + 7' 6"* Port of Survey *Liverpool*

(Type of Superstructures.)

Date of Survey *May 1932.*

Name of Surveyor *Jas. L. Ryke.*

Particulars of Classification *100A1.*

Ship's Name *PORTIA N.N.* Nationality and Port of Registry *British Liverpool* Official Number *147311* Gross Tonnage *801.* Date of Build *1925-4.*

Moulded Dimensions: Length *189.76'* Breadth *31.8'* Depth *R.Q.D. 17' 9" 14.08'*

Moulded displacement at moulded draught = 85 per cent. of moulded depth *1434* tons

Coefficient of fineness for use with Tables *.695*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <i>R.Q.D. 14.08 17' 9"</i>	(a) Where D is greater than Table depth (D - Table depth) R = $(14.12 - 12.65) 1.459$ = $1.47 \times 1.459 = +2.14$	Moulded Breadth (B) <i>31.8</i> Standard Round of Beam = $\frac{B \times 12}{50} = 7.63$ Ship's Round of Beam = <i>8.00</i> Difference <i>Excess = .37</i>
Stringer plate ... <i>.04 43</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Restricted to Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.37}{4} \left(1 - \frac{2016}{7984}\right) = -.02$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures	
Depth for Freeboard (D) = <i>14.12</i>		

## 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 <i>6.00</i>
" overhang ...						" " R.Q.D. <i>3.597</i>
R.Q.D. enclosed ...	<i>126.66</i>	<i>126.66</i>	<i>3' 8"</i>		<i>126.66</i>	Deduction for complete superstructure <i>24.97</i>
" overhang ...	<i>11.10</i>					Percentage covered $\frac{S}{L} = 80.68\%$
Bridge enclosed ...	<i>12.10</i>		<i>7' 0"</i>			" " $\frac{S_1}{L} = 79.84\%$
" overhang aft ...						" " $\frac{E}{L} = 79.84\%$
" overhang forward ...	<i>23.24</i>					Percentage from Table, Line A. (corrected for absence of forecastle (if required))
F'cle enclosed ...	<i>26.8</i>	<i>23.24</i>	<i>7' 0"</i>		<i>23.24</i>	Percentage from Table, Line B. <i>75.10%</i> (corrected for absence of forecastle (if required))
" overhang ...	<i>3.18</i>	<i>1.59</i>			<i>1.59</i>	Interpolation for bridge less than 2L (if required)
Trunk aft ...						Deduction = $24.97 \times .7510 = -18.75$
" forward ...						
Tonnage opening aft ...						
" forward ...						
Total ...	<i>153.08</i>	<i>151.49</i>			<i>151.49</i>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<i>28.97</i>	1		<i>28.97</i>	<i>35.35</i>	<i>35.00</i>	1		<i>35.34</i>	Mean actual sheer aft = <i>Excess</i> Mean standard sheer aft = <i>Excess</i>
$\frac{1}{2}$ L from A.P. ...	<i>12.89</i>	4		<i>51.56</i>	<i>14.13</i>	<i>14.27</i>	4		<i>57.08</i>	Mean actual sheer forward = <i>Excess</i> Mean standard sheer forward = <i>Excess</i>
$\frac{2}{3}$ L " ...	<i>3.19</i>	2		<i>6.38</i>	<i>3.35</i>	<i>3.94</i>	2		<i>7.88</i>	Length of enclosed superstructure forward of amidships = <i>168</i> " " aft of " = <i>500</i>
Amidships ...		4		<i>0</i>			4			
$\frac{2}{3}$ L from F.P. ...	<i>6.37</i>	2		<i>12.74</i>	<i>10.82</i>	<i>8.27</i>	2		<i>16.54</i>	
$\frac{1}{2}$ L " ...	<i>25.79</i>	4		<i>103.16</i>	<i>34.33</i>	<i>33.17</i>	4		<i>132.68</i>	
F.P. ...	<i>57.95</i>	1		<i>57.95</i>	<i>78.78</i>	<i>78.00</i>	1		<i>78.00</i>	
Total ...				<i>260.76</i>					<i>328.02</i>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{67.26}{18} \left( .75 - \frac{3466}{4034} \right) = -1.29$

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.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{695 + 68}{1.36} = \frac{1375}{1.36}$
Depth to Freeboard Deck = <i>17.78</i>	$\Delta = 16.90$	Depth Correction ... <i>2.14</i>
Summer freeboard = <i>3.98</i>	Tons per inch immersion at summer load water line	Deduction for superstructures ... <i>18.75</i>
Moulded draught (d) = <i>13.80</i>	T = <i>110</i>	Sheer correction ... <i>1.29</i>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>3.45</i> <i>3.2</i>	Deduction = $\frac{\Delta}{40T}$ inches = <i>3.84</i>	Round of Beam correction ... <i>.02</i>
Addition for Winter North Atlantic Freeboard (if required) = <i>2</i>		Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ... <i>44.00</i>
		Summer Freeboard = <i>47.67</i>

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

Tropical Fresh Water Line above Centre of Disc ... <i>5.2</i>	Tropical Fresh Water Freeboard ...	<i>3' - 11 3/4"</i>
Fresh Water Line " " ... <i>3.2</i>	Fresh Water " " ...	<i>3' - 6 1/4"</i>
Tropical Line " " ... <i>1.4</i>	Tropical " " ...	<i>3' - 8"</i>
Winter Line below " " ... <i>3.2</i>	Winter " " ...	<i>4' - 3 1/4"</i>
Winter North Atlantic Line " " ... <i>5.2</i>	Winter North Atlantic " " ...	<i>4' - 5 1/4"</i>



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	...	...	...	1	2	3.				
Dimensions of Hatchway	...	...	...	28'11" x 15'	28'9" x 16'	7'8" x 17'0"				
COAMINGS	{	Height above Deck	...	3'4"	3'1"	3'1"				
		Thicknes { Sides	...	47	47	47				
		{ Ends	...	47	47	47				
		Stiffeners	...	7 x 3 x 1/4 BA	7 x 3 x 1/4 BA	7 x 3 x 1/4 BA				
		Brackets, Stays	...	2.	2.	✓				
HATCH BEAMS	{	Number	...	3	3	1				
		Spacing	...	5'11 1/2"	5'11"	3'10"				
		Scantling and Sketch	...	7" PL, 18 x 36, Angles, 3 x 3 x 1/4	As No 1	As No 1				
		Bearing Surface	...	3	3	3				
FORE AND AFTERS	{	Number	...	✓	✓	✓				
		Spacing	...							
		Unsupported Lengths	...							
		Scantling* and Sketch	...							
		Bearing Surface	...							
HATCH COVERS	{	Material	...	W.P.	As	As				
		Thicknes	...	3 1/2"	As	As				
		How fitted	...	F + A.	No 1	No 1				
		Bearing Surface	...	3						
Spacing of Cleats	...	...	...	24.	As No	As				
Number of Tarpaulins	...	...	...	3	1	No 1				
*Are wood fore and afters steel shod at all bearing surfaces? ✓ Are battens and wedges efficient and in good condition? ✓ Are tarpaulins in good condition and in accordance with rule requirements? ✓ Are lashings provided in accordance with rule requirements? <i>Perf. B. &amp; J. Inten.</i>										

Particulars of fiddle, funnel and ventilator coamings:— *The Fiddle & Funnel Ventilators are in good condition. Strong steel covers are fitted over openings in fiddle. Engine Room Skylight is of steel strongly constructed.*

Particulars of Flush Bunker Scuttles:—

*None.*

Particulars of Companionways:—

*None.*

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

*On Deck. 2 Ventil. 6 1/2" Dia x 30 12" high to beam level. 38" x 110" x 110".*  
*For Use. 1 Vent. 12" Dia x 34. 36" x 110" x 110".*  
*On Deck. 2 Ventil. 12" Dia x 34. 36" x 110" x 110".*  
*Common covers + petcock plugs are provided for all vents.*

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

*On Deck 1 Air pipe 3 1/4" Dia 29" high to fore peak.*  
*For Use. 2 " 2 1/2" 29" 30" to N/OB tank.*  
*" 2 " 2 3/4" 28" 30" to N 2 "*  
*" 2 " 2 3/4" 25" 30" " 3 "*

*Sufficient closing appliances provided for all air pipes.*

Particulars of Gangway Cargo and Coaling Ports:—

*None.*



© 2020

Lloyd's Register Foundation




Particulars of Scuppers and Sanitary Discharge Pipes :—

Sanitary Discharge Pipes are taken into the same Trench.

Stippen in Lin. Wee. 1 P. 215. 4x4 1/2

2 R. Q. Dk. 2P + 2S ditto 6 fine well.

10 x 15. almost Engine & Boiler Space.  Bap.  
5-Dia.

**Lunulars of Side Scuttles :—**

*Sida Senilis* as provided with portable daylight. ✕

Particulars of Guard Rails :—

Spec. 3' 5" high, 2 Rows. Stems 4' 6" apart.

rs of Gangways, Lifelines, etc. :—

~~Iron.~~ Lifeline's pummed in the forward well for the protection of the crew.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Left R. Qr. Deck, ...	113' 10"	3' 7"	<del>3' 2"</del> 3' 2" x 1' 6"	<del>4</del> 5	<del>18 9/16</del> 23 1/2	22.8 f.
Right Well ...	36' 8"	3' 11"	3' 2" x 1' 6" 2' 6" x 1' 6"	2 1	13.24.	10.25 ✓

position of each freeing port ... } After Well :—  
and A. position and height above deck edge) } Forward Well :—

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

Additional notes from the diagram:  
- Top right: 6' 6" \* RT END OF BR. 17 SE  
- Middle left: Br. H. 5 ft 11"  
- Middle right: 11" above deck.  
- Bottom right: k. File

tional 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
Bulkhead ... ..	✓							
Quarter Deck Bulkhead ...	✓	1/4	Deck beam + Brackets	30	Connects to + Brackets	2' 6"	✓	✓
ge, After Bulkhead ... ..	✓	3		30	✓	2' 0"	✓	7' 0"
ge, Forward Bulkhead ... ..	✓	1/4		30	✓	2' 0"	✓	7' 0"
castle Bulkhead ... ..	✓	3	3 x 3 x 3/4	30	2' 0"	4' 6" x 1' 8"	16"	7' 0"
nk, Aft ... ..								
nk, Forward ... ..								
osed Machinery Casings <del>on</del> Deck	✓	3	4 x 3 x 3/4	30	2' 0"	2 - 4' 6" x 1' 8"	22"	7' 0"
osed Machinery Casings on Super-structure Decks ... ..	✓					2 - 4' 6" x 1' 8"	19 1/2"	
achinery Casings within Superstruc- tures not fitted with Class I Closing appliances ... ..	✓							
ckhouses 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 Freeboard or Raised Quarter Decks	...		
Exposed Machinery Casings on Superstructure Decks	...		✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...		✓
Doorways on Flush Deck Ships	...		✓

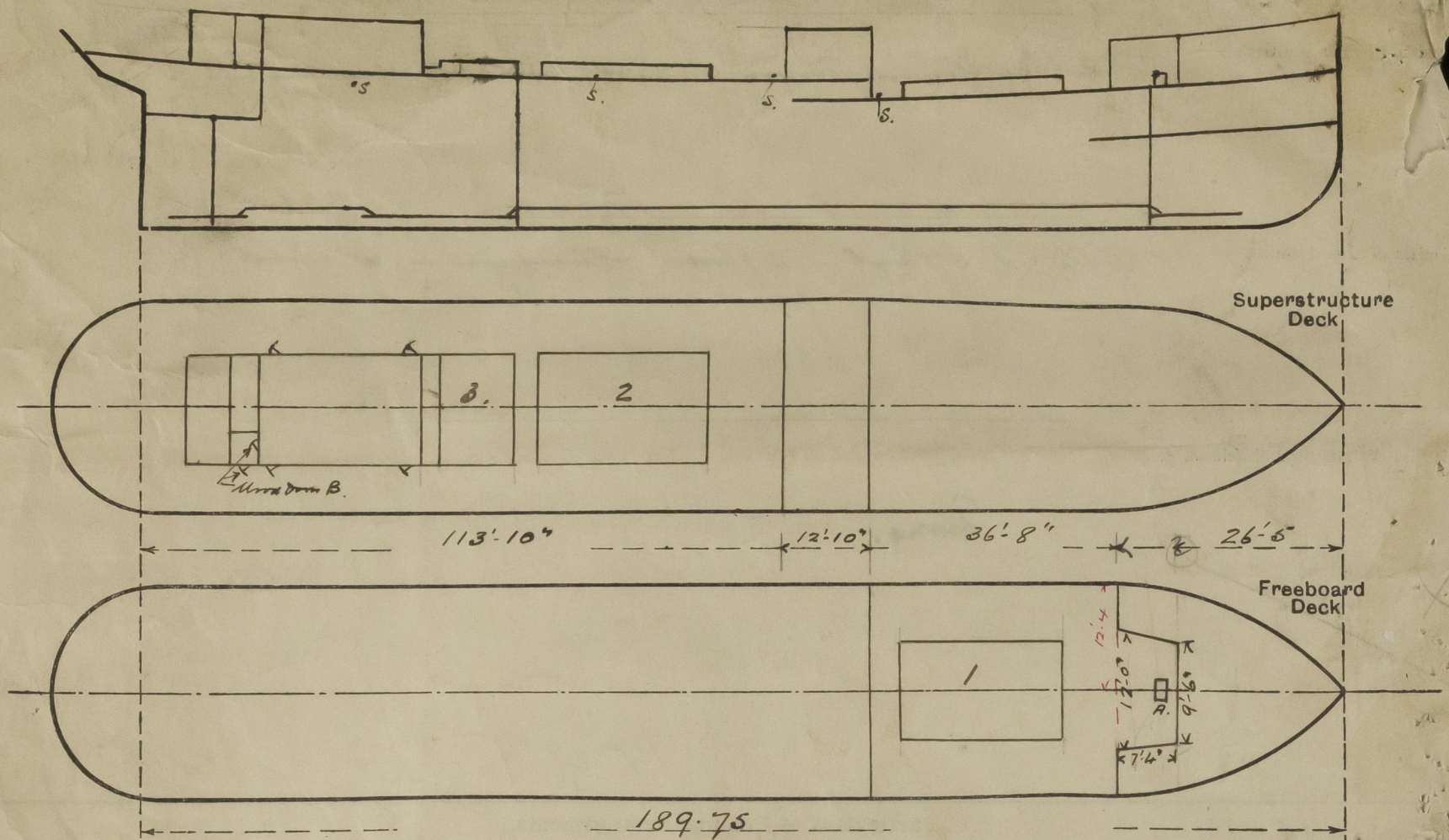
*No openings*

*Steel hinges down operates from both sides*

© 2020 Lloyd's Register



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:—



A. Hatch in Side 4'-0" x 2'-0"  
Gangway 24" x 3/8"  
Cover 2 1/2. Ribs 2 1/2.  
Cleats + 3 Lashing  
+ Spirit Lashing Arrangement.

B. Wood deck in Side Deck House.  
5'-0" x 1'-9" Side 16"  
Opens from both sides.

FORECASTLE  
Equiv. Bhd = 26.42 - 0.27  
= 26.42 - 3  
= 23.24

State any special features in the construction of the ship:—

Vessel in Dry Dock. for Damage Repair + Lubricant Arrangement.

Builder's name and yard number

John Duthie & Co. Ltd. No 464.

Names of sister ships

Owners

Robert Gilchrist & Co.

Fee £ 6 : 16 : 0

Received by me



© 2020

Lloyd's Register  
Foundation