

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **17150**
(For London Office only.)

22 NOV 2

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Poop, Bridge and Fore castle*

(Type of Superstructures.) *not in table*

Port of Survey *Helsingfors*

Date of Survey *9th Nov. 1932*

Name of Surveyor *Oliver Taylor*

Particulars of Classification *8100 A1*
S.S. No. 2 No. 3-10-29

Ship's Name *"OTAVA"*

Nationality and Port of Registry *Finnish Helsingfors*

Official Number *685*

Gross Tonnage *1390*
690 net

Date of Build *1904-5*

Moulded Dimensions: Length *70.71*
71.04 Breadth *10.67* Depth *5.740*
5.740 net

Moulded displacement at moulded draught = 85 per cent. of moulded depth *3402*
tons

Coefficient of fineness for use with Tables *.79*

Depth for Freeboard (D)

Moulded depth ... *5740*

Stringer plate ... *18*

Sheathing on exposed deck

$T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) = *5750*

Depth correction

(a) Where D is greater than Table depth
(D - Table depth) R = *8.33 (5750 - 4714) 17.23*
= 154

(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) *10670*

Standard Round of Beam = $\frac{B \times 12}{50} =$ *212*

Ship's Round of Beam = *2252*

Difference *10*

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{10}{4} \times \left(1 - \frac{5214}{7104} \right) = 17.1$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>6.645</i>	<i>6.645</i>	<i>2.16</i>		<i>6.645</i>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...	<i>18.100</i>	<i>18.100</i>	<i>2.16</i>		<i>18.100</i>
Bridge enclosed...	<i>8.669</i>	<i>8.669</i>	<i>2.16</i>		<i>8.669</i>
" overhang aft ...					
" overhang forward	<i>8.209</i>	<i>8.209</i>	<i>2.16</i>		<i>8.209</i>
Fore enclosed ...	<i>8.209</i>	<i>8.209</i>	<i>2.16</i>		<i>8.209</i>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	<i>33.432</i>	<i>33.423</i>			<i>33.423</i>

Standard Height of Superstructure *1830*

" " R.Q.D.

Deduction for complete superstructure *743*Percentage covered $\frac{S}{L} =$ *47.26*" $\frac{S_1}{L} =$ *47.26*" $\frac{E}{L} =$ *47.26*

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. *33.67*

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = *250*

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	<i>843</i>	<i>1</i>	<i>843</i>	<i>838</i>	<i>843</i>	<i>1</i>	<i>843</i>
$\frac{1}{4}$ L from A.P. ...	<i>375</i>	<i>4</i>	<i>1500</i>	<i>381</i>	<i>375</i>	<i>4</i>	<i>1500</i>
$\frac{2}{4}$ L " ...	<i>94</i>	<i>2</i>	<i>188</i>	<i>95</i>	<i>94</i>	<i>2</i>	<i>188</i>
Amidships ...		<i>4</i>				<i>4</i>	
$\frac{3}{4}$ L from F.P. ...	<i>187</i>	<i>2</i>	<i>374</i>	<i>176</i>	<i>176</i>	<i>2</i>	<i>352</i>
$\frac{1}{4}$ L " ...	<i>749</i>	<i>4</i>	<i>2996</i>	<i>702</i>	<i>702</i>	<i>4</i>	<i>2808</i>
F.P. ...	<i>1686</i>	<i>1</i>	<i>1686</i>	<i>1600</i>	<i>1600</i>	<i>1</i>	<i>1600</i>
Total ...			<i>7587</i>				<i>7291</i>

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

If limited on account of midship superstructure.

Station	Standard	Actual
Sheer Forward.		
184 3	561	176 3
749 3	2247	702 3
1686 1	1686	1600 1
	4494	4234
		<i>9420</i>

Mean actual sheer aft = *Excess*

Mean standard sheer aft

Mean actual sheer forward = *Deficient*

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *11.91%*" " aft of " = *13.69%*

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *5.750*Summer freeboard = *703*Moulded draught (d) = *5.047*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48}$ inches = *105*

Addition for Winter North Atlantic Freeboard (if

required) = *51*

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{794.68}{1.36} = 584.32$ $\frac{1.47}{1.36} = 1.08$ Depth Correction ... *154*Deduction for superstructures ... *250*Sheer correction ... *8*Round of Beam correction ... *1*

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = *703*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 below " " ...

Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Particulars of fiddle, funnel and ventilator coamings:— Fiddle openings covered by hinged steel covers. Funnel and H vent. placed on the engine casing, 0.75 met. high.

Particulars of Companionways :- Access to the Crews Quarters through a steel casing on fore-castle deck fitted with hinged steel doors $2 \times 1060 \times 390 \times 6 \frac{1}{2}$ mm, operated from both sides, sill 0.31 met. high. Access to the Masters Quarters through a steel casing on poop dk. fitted with double leaf doors $2 \times 1440 \times 500 \times 35 \frac{1}{2}$ mm, sill 400 mm high.

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

on Fore c. dk 2 vent. $\Phi = 140$ " , height = 310 " } all ventilators
 on fore. well 2 " $\Phi = 280$ " " = 980 " } being closed by
 on Bridge dk. 2 " $\Phi = 150$ " " = 210 " } wood covers & tarpauling
 " 4 " $\Phi = 150$ " " = 300 " }
 on after well 2 " $\Phi = 150$ " " = 920 " }
 on Pairs dk. 2 " $\Phi = 100$ " " = 2400 " } 8 ft. to prop bulks. ✓
 850

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


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

on forec. dk.	1 air pipe	$\phi = 40 \text{ mm}$	height = 450 mm
In fore. well	2 "	$\phi = 40 \text{ mm}$	= 680 "
after "	4 "	$\phi = 40 \text{ mm}$	= 600 "

Particulars of Gangway Cargo and Coaling Ports :

None filled


Particulars of Scupperns and Sanitary Discharge Pipes:—


	3 scupperns in forward well?	110 x 130
"	" " after "	
One	Sanitary Discharge pipes below main deck with non-return valves	
"	" " above " " without " "	

Particulars of Side Scuttles :—

All side scuttles fitted with deadlights.

Particulars of Guard Rails :—

 ~ 850 mm prop dia.

 930 on fore c. dk.

Particulars of Gangways, Lifelines, etc. :—

~~None fitted~~

Eyeballs fitted to the pulwanks in the well for
gazing lifelines.

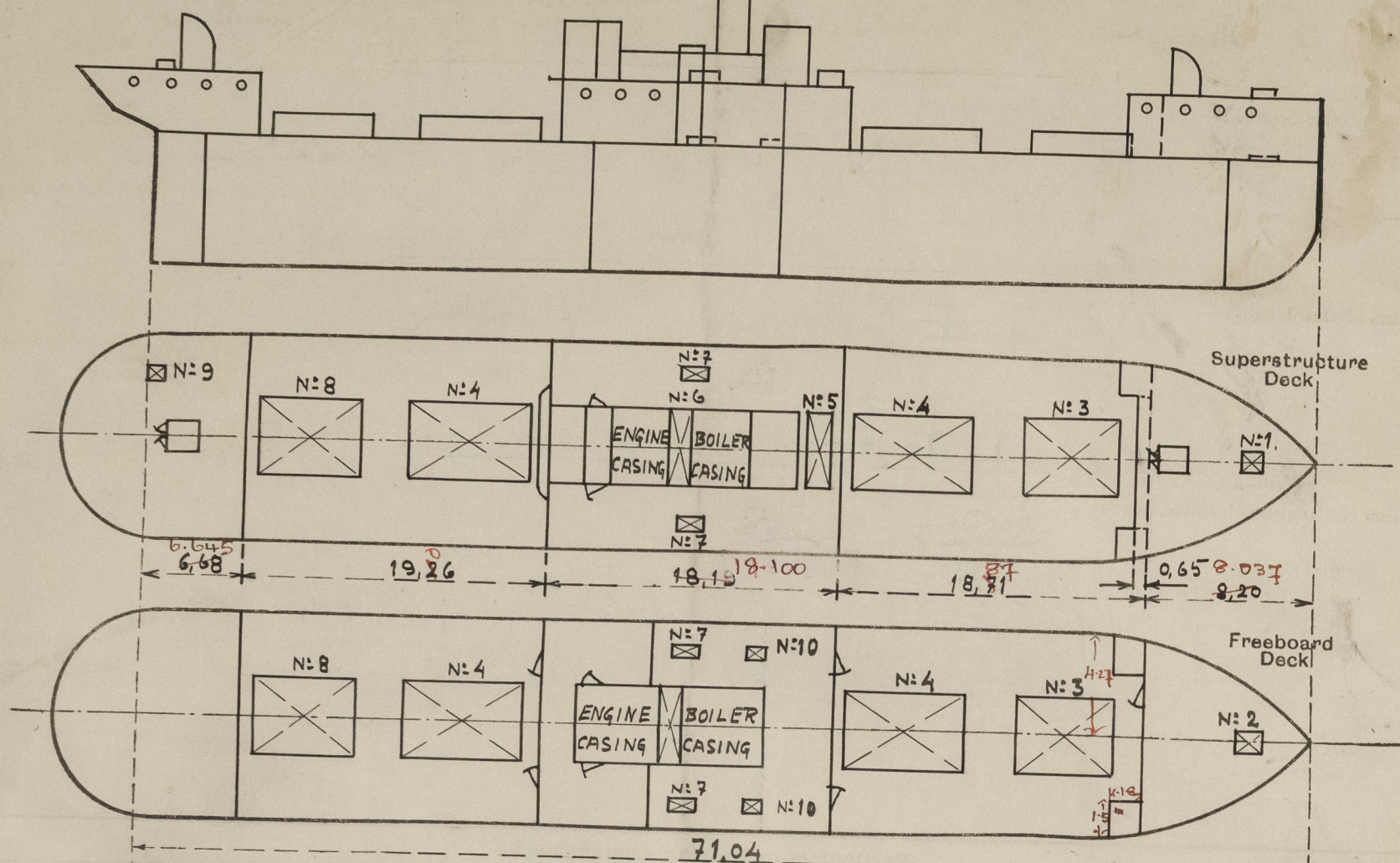
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	19.86 ⁰	1.35	0.9 x 0.44	3	1.19 m ²	
Forward Well	18.71 ⁵	1.35	0.9 x 0.44	3	1.19 m ²	
State position of each freeing port } After Well:— The transverse 2.9 m. from bridge bulwark. } 0.8 m. above (F. and A. position and height above deck edge) } Forward Well:— " 2.2 m. " " } deck State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 1 rail and hinged shutters.						
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	10	8	—	Wood lined	—	—	—	—
Raised Quarter Deck Bulkhead ...	—	—	—	—	—	—	—	—
Bridge, After Bulkhead	—	8	—	Wood lined	—	$2 \times 1.33 \times 0.61$	0.60	—
Bridge, Forward Bulkhead	10	8	$2170 \times 75 \times 12$	0.7	$430 \times 430 \times 12$	$2 \times 0.98 \times 0.64$	0.63	—
Forecastle Bulkhead	—	7.5	$80 \times 80 \times 8$	0.82	—	1.22×0.82	0.44	—
Trunk, Aft	—	—	—	—	—	—	—	—
Trunk, Forward	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Super-structure Decks	—	7	$80 \times 80 \times 10$	0.76	—	$2 \times 1.16 \times 0.52$	0.52	0.75
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	9	7	$80 \times 80 \times 10$	0.76	—	$2 \times 1.18 \times 0.64$	0.39	—
Deckhouses on Flush Deck Ships ...	—	—	—	—	—	—	—	—

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

Poop Bulkhead	<i>int</i>
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	<i>2 hinged tank-doors, 35 thick, operated from both sides</i>
Bridge, Forward Bulkhead	<i>2 " steel- " 82 " closed by 3/4" bolts spaced 150 in.</i>
Forecastle Bulkhead	<i>one " " " operated from both sides.</i>
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Super-structure Decks	<i>2 hinged steel doors operated from both sides</i>
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	<i>2 " " " " " "</i>
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:—



5/8 OTAVA

$$\begin{aligned}
 &8.037 + 1.5 \times 1.8 \\
 &\quad \quad \quad 4.27 \\
 &= 8.669 \\
 &\text{overhang} = .65 - .632 \\
 &\text{allow} = .018 \times .50 = .009
 \end{aligned}$$

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

The sheer has been measured afloat, the draught being forward 2.97 and aft 4.37 met. The Finnish measuring authorities have altered the Reg. Tonnage as follows:—

Gross Ton. = 1290.
Net. Ton. = 690.

Builder's name and yard number *Wood Skinner & Co. Ltd. Newcastle No. 118*

Names of sister ships *✓*

Owners *Helsingin Leijla Oy*

Fee £ *8 : 10 : 0*

Received by me

Olavi Tybäck



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