

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **30845**
(For London Office only.)

-4 NOV 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having combined raised quarter deck and bridge & detached forecastle.

(Type of Superstructures.) Not in R.R.

Port of Survey Tallinn.

Date of Survey 26th October, 1932.

Name of Surveyor P. Gerritz.

Particulars of Classification + 100 A 1.
S.S. No. 2-31.

Ship's Name <u>"MINNA"</u>	Nationality and Port of Registry <u>Estonian, Käsmu</u>	Official Number <u>746</u>	Gross Tonnage <u>1365</u>	Date of Build <u>4, 1923.</u>
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Moulded Dimensions: Length 83'4" 234.25' Breadth 35'6" 35.33' Depth 18'7" 18.58'
Moulded displacement at moulded draught = 85 per cent. of moulded depth 2835 tons
Coefficient of fineness for use with Tables 759 as per tables

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>18.58</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>18.62 - 15.62 = 3.00</u> <u>1.802 = + 5.41"</u>	Moulded Breadth (B) <u>35.33'</u> Standard Round of Beam = $\frac{B \times 12}{50} = \frac{35.33 \times 12}{50} = 8.48"Ship's Round of Beam = 9Difference = .52"$
Stringer plate <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Difference
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Restricted to
Depth for Freeboard (D) = <u>18.62</u>		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.52^2}{4} \times \left(1 - \frac{.04}{35.33} \right) = .0754 = .04"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
osed	15'6"	15.50	6'9" 24"	-	15.50
hang	0'3"		6'9"	-	
nclosed	67'0"	67.00	4'0"	-	67.00
verhang					
nclosed... ..	57'6"	51.75	7'0" 24"	-	51.75
verhang aft					
verhang forward	0'9"	.37	7'0"	-	.37
nclosed	21'2"	23.42	7'0"	-	23.42
verhang	2'3"		7'0"	-	
aft					
forward					
age opening aft					
" forward					
Total	164.17	158.04			158.04

Standard Height of Superstructure	6.00
" " R.Q.D.	3.895
Deduction for complete superstructure	29.42
Percentage covered $\frac{S}{L} =$	70.08%
" " $\frac{S_1}{L} =$	67.46%
" " $\frac{E}{L} =$	67.46%
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	58.68%
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required)	
Deduction =	29.42 x .5868 = 17.26

SHEER CORRECTION.

ion	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
...	33.42	1		33.42	2'10"	36.00	1		36.00
1/4 L from A.P. ...	14.87	4		59.48	1'2"	15.80	4		63.20
1/2 L " " ...	3.68	2		7.36	0'4"	3.95	2		7.90
Amidships ...		4			0'0"		4		
3/4 L from F.P. ...	7.35	2		14.70	0'8"	8.09	2		16.18
1/4 L " " ...	29.75	4		119.00	2'8"	32.38	4		129.52
F.P. ...	66.85	1		66.85	6'1"	72.00	1		72.00
Total ...				300.81					324.80

Mean actual sheer aft = excess.
Mean standard sheer aftMean actual sheer forward = excess.
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = .098" " aft of " = .500Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{23.99}{18} \left(\frac{.75 - .3504}{2} \right) = 1.53$

If limited on account of midship superstructure.

 $\times \frac{198}{200} = 1.51$

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 18.62 Ft.
Summer freeboard = 1.55
Moulded draught (d) = 17.07

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 4.27Addition 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 = $\frac{\Delta}{40 T}$ inches

=

108 m/m

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{68 + .759}{1.36} = \frac{1.439}{1.36}$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

5.41 17.81 12.40

Summer Freeboard = 18.56SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Steel, Deck: 18.56

Tropical Fresh Water Line above Centre of Disc	216 m/m
Fresh Water Line	106 m/m
Tropical Line	108 m/m
Winter Line below	108 m/m
Winter North Atlantic Line	159 m/m

Tropical Fresh Water Freeboard	255
Fresh Water	363
Tropical	363
Winter	579
Winter North Atlantic	630

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HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Particulars of fiddle, funnel and ventilator coamings —

Fiddle casing on bridge deck, height 7'2".	Openings on top closed by hinged steel covers.
Funnel on fiddle (boiler) casing top, coaming 12" high, plating 1/4"	
Household vent. coamings on boiler casing top, coamings 14" to 16" (2 of each height)	
Engine room " " " engine " " "	48"

Particulars of Companionways:— 1 companionway on poop deck - entrance to crew's space. Built of steel and riveted to deck plating. Plates $\frac{1}{4}$ " thick 9". 2 steel doors, hinged, plate $\frac{1}{4}$ ", manipulated from both sides. ✓
Opening 56" x 25". ✓

Pop deck:-					2 vents to crew's space, coamings	16"	thickness	1/4"	} Steel plugs (covers) for hold ventilator coamings.	
1 " " tunnel					"	16"	"	1/4"		
P. & Q. D.:-					2 " " holds	"	36"	"		3/8"
Max deck forward:-					2 " " "	"	36"	"		3/8"

Deck, quarter, or superstructure decks:—			
<u>Pop deck</u> :-	1 pipe	to	after peak tank, opening 7" above deck.
<u>P. & D.</u> :-	2 "	No. 5 d.P.	" 23" " "
<u>Bridge deck</u> :-	2 "	No. 4 D.B.	" 19" " "
	2 "	No. 3 D.B.	" 19" " "
<u>Star deck forward</u> :-	2 "	No. 2 D.B.	" 21" " "
	1 "	No. 1 D.B.	" 18" " "
<u>Forecastle deck</u> :-	1 "	fore peak tank	" 12" " "

Wood provided
for plugs at present.

Sanitary discharges:-

From W.C.	on R.R.D.	1 on each side,	openings 6' below R.R.D.
" " "	Bridge deck	on both sides,	" 1' above foreboard deck.
" Baths	" " " " "	" " "	" 1' " " "

All sanitary discharges fitted with non-return valves.

Particulars of Guard Rails:— On poop and forecastle decks:— Height 38". Stanchions of $1\frac{1}{2}$ " solid iron spaced 54" apart.
2 rail bars of $\frac{7}{8}$ " solid iron.

~~Accommodation ladder used as gangway between Nos. 3 and 4 hatches.~~
~~Crew's quarters placed aft.~~

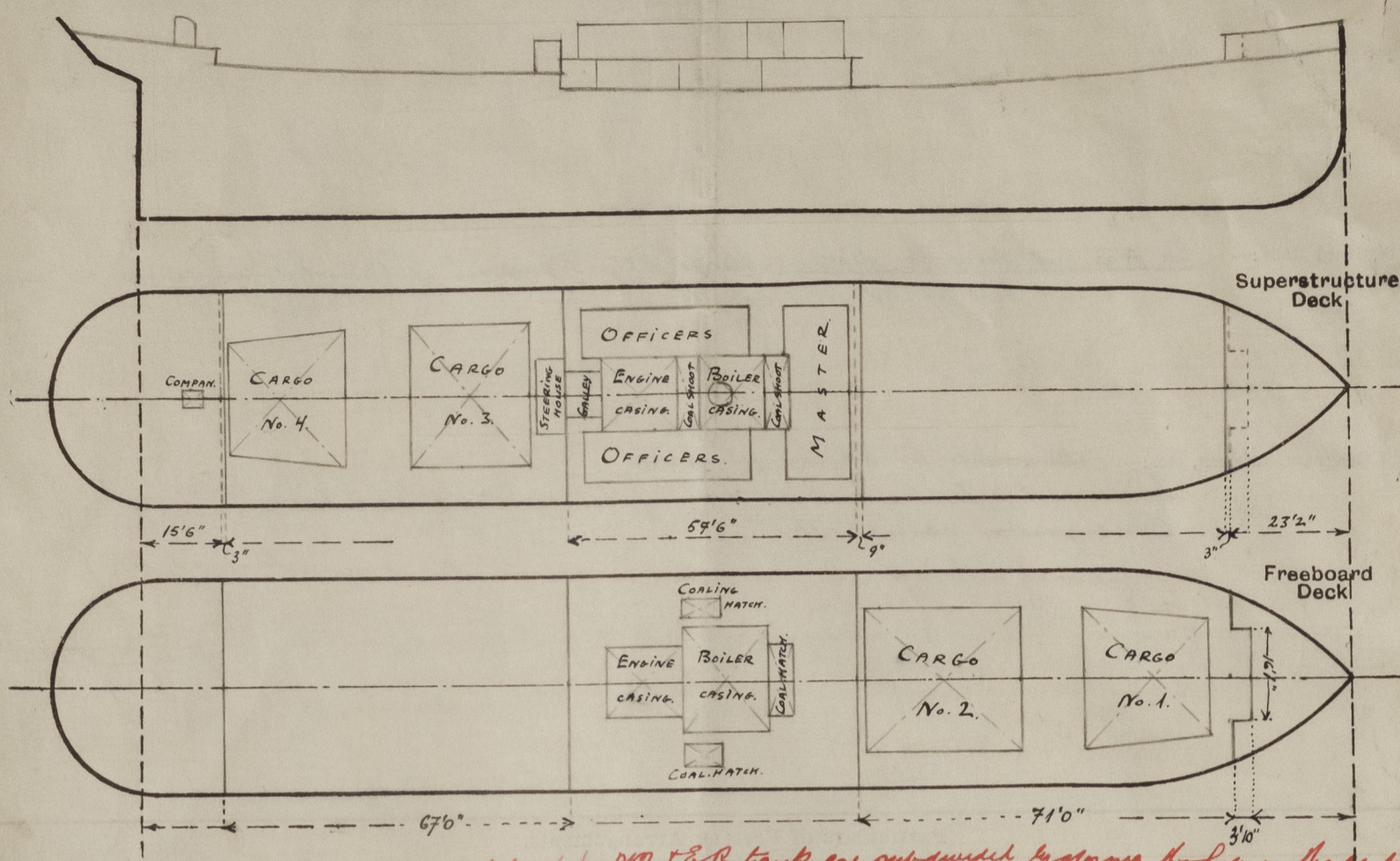
gangway with lifelines provided w/ after well. crew berthed aft

State position of each freeing port ... } After Well:— *Foremast 5'5" from bridge aft bulkhead, aftermast 11'5" from poop bulkhead*
(F. and A. position and height above deck edge) } Forward Well:— *20'4" foremast*
State whether the freeing ports are fitted with shutters, *Height above deck edge: after well—5'6" fore well—9' " 3'10" " bridge "*
doors, or rails, and give particulars of such:— *No shutters, 3 horizontal bars of 1" solid iron.*

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

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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



Timber deck Cargoes Boiler room tanks are subdivided, No. 2 & 3 tanks are subdivided by closing the hole in the centre by means of wood plugs. Lashings shackles are fitted to all bulwark stanchions on the upper deck for 2' in the R.D. There are spaced as required by the Rules. Strong angle sockets for securing the uprights are fitted to the stringer plate and spaced as required by the Rules.

State any special features in the construction of the ship:— The survey was held while the vessel was lying afloat and was confined to an examination of the means for closing the openings in the decks and sides of the ship. The sheer has been ascertained by measuring the height of superstructure decks and bulwarks above water level and deducting the heights of these superstructures and bulwarks; correction has been made for trim and list.

Thickness of stringer plating not gauged.

Round of beam not measured.

Moulded displacement not available. According to a scale on board dead weight in salt at 16½" - 2041 tons; 17' - 2142 tons; 16' - 1940 tons; 17¾" - 2200 tons.

No wood sheathing on freeboard deck.

Engine room skylight built of steel and situated on engine casing top.

The forward end coamings of Nos. 2 and 4 cargo hatches and the after end coamings Nos. 1 and 3 ditto are vertical only in their upper part, the lower part coming down sloping for the stiffeners at these coamings have been omitted. These coamings are stiffened by corner brackets, 3 for each coaming.

~~At present no fittings for uprights and no eye plates for lashings fitted, will be in accordance with Rule requirements.~~

~~Subdivision of D. B. tanks at present not effected. Will be effected by means of plugs driven in holes of centre girder.~~

Bulwark plating 5/16". Rail bar 5 1/2 x 3 x 3/8". Stanchions of 1/2 x 5/16" spaced 6' apart.

Steering chains and rods protected by bulwark stanchions and in the event of break down in the main steering arrangements a hand steering gear is placed on the poop deck.

Builder's name and yard number J. Lewis & Sons, Aberdeen.

Names of sister ships ?

Owners Ka'smu Laeva-Omanikud.

Fee £ 8 : 10 : 0.

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