

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

No. 37243

Ship's Name m.s. LENA	Official Number ✓	Nationality and Port of Registry Russian Murmansk	Gross Tonnage 7400	Date of Build 1954	Port of Survey Vlissingen
Moulded Dimensions: Length 110,725 mm Breadth 18,836 Depth 11,200					Date of Survey January 1954
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) 14850 m³					Surveyor's Signature <i>Kraayenboud</i>
Coefficient of fineness for use with Tables .698					Particulars of Classification +100 A1

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 11200 ✓	(a) Where D is greater than Table depth (D-Table depth) R = 8.33(11229-7915) 29.982 = + 228.1	Moulded Breadth (B) 18836 ✓
Stringer plate 13 1/2	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 18}{50} =$ 377 ✓
Sheathing on exposed deck 64 mm		Ship's Round of Beam = 420 ✓
$T \left(\frac{L-S}{L} \right) = 64 \times \frac{27.20}{118.725} =$ 15	If restricted by superstructures	Difference + 43 ✓
Depth for Freeboard (D) = 11229 ✓		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{43}{4} \times .8954 = -10.1$ ✓

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
F'cle enclosed EQUIV	12364	12364	2400	✓	12364
" overhang EQUIV	86	61			61
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	12450	12425			12425

Standard Height of Superstructure 2257 mm ✓
" " R.Q.D. ✓
Deduction for complete superstructure 1049 mm ✓
Percentage covered $\frac{S}{L} =$ 10.49 ✓
" " $\frac{S_1}{L} =$ 10.46 ✓
" " $\frac{E}{L} =$ 10.46 ✓
Percentage from Table, Line A. 5.23 ✓
(corrected for absence of forecastle (if required))
Percentage from Table, Line B.
(corrected for absence of forecastle (if required))
Interpolation for bridge less than .2L (if required)
Deduction = 1049 x .0523 = - 55 mm ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	1243 ✓	1		1243	2205	2205	1		2205
1/4 L from A.P.	552 ✓	4		2208	1037	1037	4		4148
3/4 L "	138 ✓	2		276	318	318	2		636
Amidships	✓	4		✓	0		4		
3/4 L from F.P.	276 ✓	2		552	574	574	2		1148
1/4 L "	1105 ✓	4		4420	1809	1809	4		7236
F.P.	2486 ✓	1		2486	4061	4061	1		4061
Total				11185					19434

Mean actual sheer aft = **Excess** ✓
Mean standard sheer aft =

Mean actual sheer forward = **Excess** ✓
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = **Nil** ✓
" " aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{8249}{18} \left(.75 - .0523 \right) = -320$ ✓
If limited on account of midship superstructure. **Yes Nil** ✓

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Deduction for Fresh Water.

TABULAR FREEBOARD corrected for Plush Deck (if required)

Correction for coefficient

Depth to Freeboard Deck = 11278 ✓	Displacement in salt water at summer load water line $\Delta =$ 12220 m³ ✓
Summer freeboard = 3130 ✓	Tons per inch immersion at summer load water line $T =$ 18.70 m³/cm ✓
Moulded draught (d) = 8148 ✓	Deduction = $\frac{\Delta}{40 T}$ inches = 163 mm ✓
Keel allowance =	16 cm ✓
Extreme draught =	
Deduction for Tropical Freeboard and addition for Winter freeboard = $\frac{d}{48}$ inches = 170 mm = 17 cm ✓	
Addition for Winter North Atlantic Freeboard (if required) =	

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. to...

CORRESPOND WITH SUMMER DRAUGHT OF 8.150M (8.150M ACTUAL)

Summer Freeboard = **3130** ✓

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

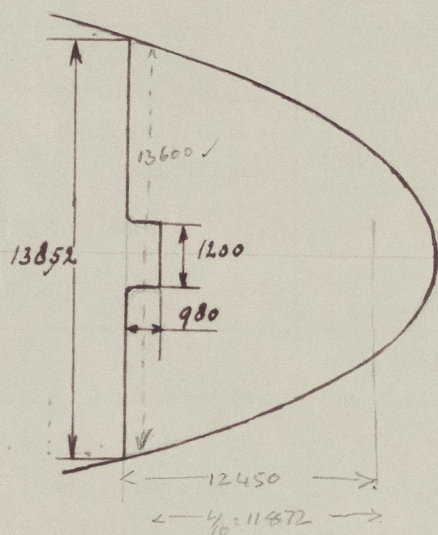
Tropical Fresh Water Line above Centre of Disc	3.3 cm ✓
Fresh Water Line " "	1.6 cm ✓
Tropical Line " "	1.7 cm ✓
Winter Line below " "	1.7 cm ✓
Winter North Atlantic Line " "	✓

Tropical Fresh Water Freeboard	280 cm ✓
Fresh Water " "	297 cm ✓
Tropical " "	296 cm ✓
Winter " "	330 cm ✓
Winter North Atlantic " "	✓

M/S. Lena.

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Draught	Displacement	
8000 mm	11940 m ³	18,6 m ³ /cm
8150 "	12220 "	18,7 "
8300 "	12520 "	18,75 "



Forecastle bulkhead

(niche covered by forecastle deck)

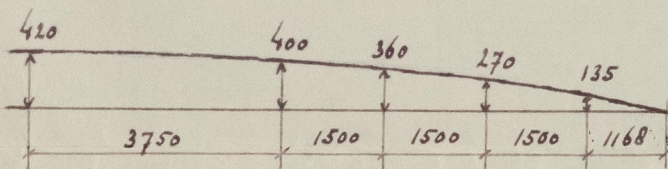
FORECASTLE
 Length enclosed = 11470 ✓
 $\frac{12400 \times 980}{13600} = \frac{894}{12364}$ ✓
 $0/H = 980 - 894 = 86$ ✓

O.H. Fore 1/10 = $\frac{(11872 - 11470) \times 1200}{13600}$ ✓
 $= \frac{402 \times 1200}{13600}$ ✓
 $= 35$ mm.

O.H. aft 1/10 = $\frac{578 \times 1200}{13600} = 51$ mm.

Fore 1/10	5	51
	25	35
Aft 1/10	51	26
	86	61

Round of beam of upperdeck



The vessel is designed for a maximum moulded summerdraught of 8150 mm

Trade of ship Ocean

Names of sister ships ✓

Builder's name and yard number Kon. Mij. De Schelde " n° 274

Owners Transmashimport Moskow.

Fee £



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