

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name LAPPONIA	Official Number ✓	Nationality and Port of Registry FINNISH HELSINKI FORS	Gross Tonnage 1898	Date of Build 1898	Port of Survey _____
Moulded Dimensions: Length 70.10 M Breadth 10.36 Depth 4.889					Date of Survey 19/2/52
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) _____ tons					Surveyor's Signature _____
Coefficient of fineness for use with Tables .781					Particulars of Classification + 100 A.1

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 4.889	(a) Where D is greater than Table depth (D-Table depth) R = 8.33(4.901 - 4.67) 17.70 = + 34 1/4	Moulded Breadth (B) 10.36
Stringer plate 12	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \mathbf{207}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Ship's Round of Beam = 248
Depth for Freeboard (D) = 4.901		Difference + 41
		Restricted to
		Correction = $\frac{\text{Diff}^c}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{41}{4} \times .2866 = \mathbf{-34 1/4}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	24.080	24.080	1.219	✓	24.080
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	18.18	17.79	2.134	✓	17.79
" overhang aft					
" overhang forward					
Fore enclosed <i>Eggs</i>	7.90	7.90	2.134	✓	7.90
" overhang	0.48	0.24	2.134	✓	0.24
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	50.64	50.01			50.01

Standard Height of Superstructure 18.30 m/m
" " R.Q.D. 11.79 m/m
Deduction for complete superstructure 737 m/m
Percentage covered $\frac{S}{L} = \mathbf{72.24}$
" " $\frac{S_1}{L} = \mathbf{71.34}$
" " $\frac{E}{L} = \mathbf{64.65}$
Percentage from Table, Line A. + B 64.65
(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 = 737 x .6465 = - 476

SHEER CORRECTION.

ACTUAL R.Q.D. = 1219
STANDARD " = 1179
40 m/m

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	838	1	838	622	642	1	642
1/2 L from A.P.	372	4	1488	281	294	4	1176
3/4 L "	93	2	186	70	70	2	140
Amidships	✓	4	✓	✓	✓	4	✓
3/4 L from F.P.	186	2	372	180	180	2	360
1/2 L "	744	4	2976	722	722	4	2888
F.P.	1676	1	1676	1651	1651	1	1651
Total			7536		6785		6877

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S_1}{2L} \right) = \mathbf{+ 16 1/4 m/m}$
If limited on account of midship superstructure. **✓**

Mean actual sheer aft = **DEFICIENT > 75%**
Mean standard sheer aft =
Mean actual sheer forward = **DEFICIENT.**
Mean standard sheer forward =
Length of enclosed superstructure forward of amidships =
" " aft of " = **DEFICIENT SHEERS**

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 $\frac{.781 + .68}{1.36} = \mathbf{1.461}$
Depth to Freeboard Deck = 4.901	Δ =	Depth Correction 34
Summer freeboard = 3479	Tons per inch immersion at summer load water line	Deduction for superstructures 476
Moulded draught (d) = 4.5542	T =	Sheer correction 16 1/4
Keel allowance =	Deduction = $\frac{\Delta}{40 T}$ inches	Round of Beam correction 3
Extreme draught =	= 95 m/m	Correction for Thickness of Deck amidships ✓
Deduction for Tropical freeboard and addition for		Other corrections, scantlings, etc. 50
Winter freeboard = $\frac{d}{48}$ inches = 95 1/4		Summer Freeboard = 3479
Addition for Winter North Atlantic Freeboard (if required) = 95 + 51 = 146 m/m		

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

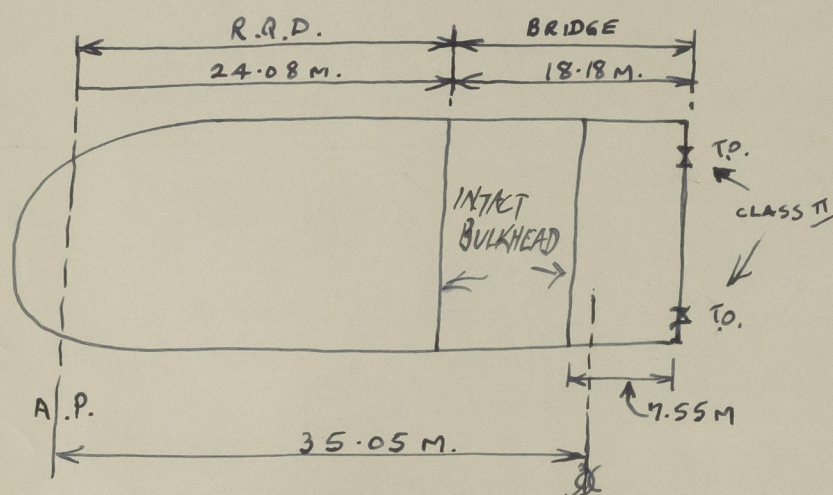
Tropical Fresh Water Line above Centre of Disc 190 m/m	Tropical Fresh Water Freeboard 1.59
Fresh Water Line " 95	Fresh Water " 2.54
Tropical Line " 95	Tropical " 2.54
Winter Line below " 95	Winter " 4.44
Winter North Atlantic Line " 146	Winter North Atlantic " 4.95

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.

$$\begin{array}{rcl} \text{RAISED QUARTER DECK} & = & 24.08 \\ \text{BRIDGE} & = & 18.18 \\ \hline & & 42.26 \\ & \swarrow & 70.1 \\ & & = .6029 \end{array}$$

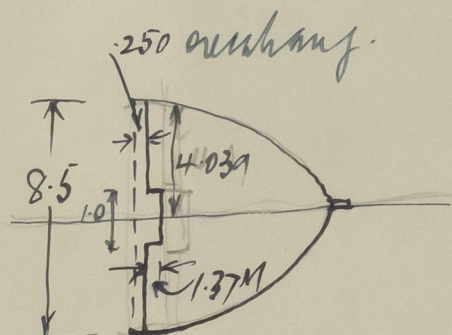
$$\begin{array}{rcl} .5L & 100 & 1.000 \\ .7L & 90 & \\ \hline .2L & 10 & \\ & \times \frac{1029}{.2} & = .0514 \\ & & .9486 \times 7.55 = 7.16 \end{array}$$

$$18.18 - 7.55 = \frac{10.63}{17.79} = S_1$$



$$\begin{array}{rcl} \text{F.C.L.E.} & & \\ \text{Sidehams} & & \\ \text{Reas} & + \frac{1.37 \times 7.078}{8.5} & = \frac{1.14}{7.90} \\ \text{ENCLOSED} & = & 6.76 \end{array}$$

$$\begin{array}{rcl} o/H & = & 8.380 - 7.90 \\ & = & 0.480 \text{ m} \end{array}$$



Trade of ship _____

Names of sister ships _____

Builder's name and yard number _____

Owners _____

Fee £ _____



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Foundation