

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "INARI"	Official Number	Nationality and Port of Registry Finnish. Helsingfors.	Gross Tonnage 2345.	Date of Build 1900.	Port of Survey West Hartlepool.
Moulded Dimensions: Length 291.67 Breadth 42.5 Depth 21.83.					Date of Survey 20th, 21st, & 22nd July 1937.
Moulded displacement at moulded draught = 85 per cent. of moulded depth tons					Surveyor's Signature Hugh L. Walker.
Coefficient of fineness for use with Tables .770.					Particulars of Classification + 100 A1.

Depth for Freeboard (D). Moulded depth Stringer plate Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 21.84	Depth correction. (a) Where D is greater than Table depth (D - Table depth) R = + 5.43" (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) Standard Round of Beam = $\frac{B \times 12}{50} =$ Ship's Round of Beam = Difference Restricted to Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) =$ - .05"
---	---	---

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure 6.417'
" overhang ...						" " R.Q.D. 4.556'
R.Q.D. enclosed ...						Deduction for complete superstructure 34.48"
" overhang ...						Percentage covered $\frac{S}{L} =$ 42.40
Bridge enclosed ...						" " $\frac{S_1}{L} =$ 39.44
" overhang aft ...						" " $\frac{E}{L} =$ 34.94
" overhang forward ...						Percentage from Table, Line A. TIMBER 60.82 (corrected for absence of forecastle (if required))
F'cle enclosed ...						Percentage from Table, Line B. (corrected for absence of forecastle (if required))
" overhang ...						Interpolation for bridge less than 2L (if required)
Trunk aft ...						Deduction = 34.48 x .6082 = 21.16"
" forward ...						
Tonnage opening aft ...						
" " forward ...						
Total ...	123.66	115.12			110.44	

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	
A.P. ...		1				1		Mean actual sheer aft = Mean standard sheer aft
$\frac{1}{4}$ L from A.P. ...		4				4		Mean actual sheer forward = Mean standard sheer forward
$\frac{2}{4}$ L " ...		2				2		Length of enclosed superstructure forward of amidships = L
Amidships ...		4				4		" " aft of " =
$\frac{3}{4}$ L from F.P. ...		2				2		
$\frac{1}{4}$ L " ...		4				4		
F.P. ...		1				1		
Total ...								

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) =$ **- .25**
 If limited on account of midship superstructure. ☒ If limited to maximum allowance of 1½ ins. per 100 ft. ☒

Deduction for Tropical Freeboard.
 Addition for Winter and Winter North Atlantic Freeboard.

Ft.
 Depth to Freeboard Deck = **21.87**
 Summer freeboard = **2.34**
 Moulded draught (d) = **19.53**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **4.88" = 124 mm**
 Addition for Winter North Atlantic Freeboard (if required) = $\frac{d}{3} = 6.51" = 165 mm$

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 = $\frac{\Delta}{40T}$ inches
 $\frac{d}{4} = 4.88" = 124 mm$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-	
Depth Correction ...	5.43	-	41.40
Deduction for superstructures ...	-	21.16	44.14
Sheer correction ...	-	.25	
Round of Beam correction ...	-	.05	
Correction for Thickness of Deck amidships ...	-	-	
Other corrections, scantlings, etc. ...	-	-	
	5.43	21.46	- 16.03
			Summer Freeboard = 28.11

TIMBER SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck: **648 mm**

Freeboards as previously assigned by Finnish Authorities

TIMBER	Tropical Fresh Water Line above Centre of Disc	583 mm
"	Fresh Water Line	465 "
"	Tropical Line	464 "
"	Winter Line below ABOVE	189 "
"	Winter North Atlantic Line BELOW	170 "
SUMMER	ABOVE	346 "

TIMBER	Tropical Fresh Water Freeboard	441 "
"	Fresh Water	559 "
"	Tropical	560 "
"	Winter	835 "
"	Winter North Atlantic	1194 "

Lloyd's Register Foundation