

# SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steam, Sailing, Ship, Tug, etc.

Ship's Name: **LIANA**

Nationality and Port of Official Number Registry: **Forceville**

Gross Tonnage: **1898**

Date of Build: **1898**

Dimensions: Length **265.0** Breadth **38.33** Depth **19.73**

Placement at moulded draught = 85 per cent. of moulded depth

Fineness for use with Tables: **assumed .815**

Part of Survey: **COAST GUARD**

Date of Survey: **15-12-31**

Name of Surveyor: **...**

Particulars of Classification: **+ 100A1**

**Depth correction**

(a) Where D is greater than Table depth (D - Table depth) R =  $(19.77 - 17.67) \times 2.038 = +4.28$

(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) **38.33**

Standard Round of Beam =  $B \times 12 = 9.20$

Ship's Round of Beam = **9.30**

Difference **.30**

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.30}{4} \times .63 = .05$

## DEDUCTION FOR SUPERSTRUCTURES.

Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
68.00	68.00	7.0		68.00
2.00	1.00	7.0		1.00
28.00	28.00	7.0		28.00
2.00	1.00			1.00
100.00	98.00			98.00

Standard Height of Superstructure **6.5**

" " R.Q.D. **32.5**

Deduction for complete superstructure **32.5**

Percentage covered  $\frac{S}{L} = \frac{24.74}{68.00} = 36.98$

Percentage from Table, Line A. (corrected for absence of forecastle (if required)) **24.93**

Percentage from Table, Line B. (corrected for absence of forecastle (if required)) **24.93**

Interpolation for bridge less than 2L (if required)

Deduction =  $32.50 \times .2493 = -8.10$

## SHEER CORRECTION.

Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
26.50	1		26.50	46.50	46.50	1		46.50
16.24	4		64.96	20.15	20.15	4		80.60
4.01	2		8.02	5.04	5.04	2		10.08
8.03	2		16.06	8.10	8.10	2		16.20
32.48	4		129.92	32.39	32.39	4		129.56
43.00	1		43.00	74.50	74.50	1		74.50
			328.46					357.44

Difference between sums of products  $(\frac{75-S}{2L}) = \frac{28.98}{18} (75 - 1887) = .90$

account of midship superstructure.

Mean actual sheer aft = **Excess**

Mean actual sheer forward = **Excess**

Length of enclosed superstructure forward of amidships = **121 L**

" " aft of " = **136 L**

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

**Tropical Freeboard.**

**Winter and Winter North Freeboard.**

Freeboard Deck = **19.77**

Freeboard = **2.85**

Moulded draught (d) = **16.92**

Tropical freeboard and addition for Winter North Atlantic Freeboard (if required) = **4.23**

**Deduction for Fresh Water.**

Displacement in salt water at summer load water line

Tons per inch immersion at summer load water line

T =

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

**TABULAR FREEBOARD corrected for Flush Deck (if required)**

Correction for coefficient  $\frac{815 + .68}{1.36} = \frac{1.495}{1.36}$

Depth Correction **4.28**

Deduction for superstructures **8.10**

Sheer correction **.90**

Round of Beam correction **.05**

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

Summer Freeboard = **34.20**

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

Tropical Fresh Water Line above Centre of Disc	...	Tropical Fresh Water Freeboard	...
Fresh Water Line	...	Fresh Water	...
Tropical Line	...	Tropical	...
Winter Line	...	Winter	...
Winter North Atlantic Line	...	Winter North Atlantic	...

34.20 = 2' - 10 1/4"

38.43 = 3' - 2 1/4"