

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 FEB 1943
 Index No. 37178
 (For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having complete superstructure
 (Type of Superstructures.)

Port of Survey Bombay

Date of Survey July 1942

Name of Surveyor John Rundle

Particulars of Classification Contemplated

Ship's Name LEONARDO DA VINCI	Nationality and Port of Registry British Mombasa	Official Number 159356	Gross Tonnage 7515	Date of Build 1925
Moulded Dimensions: Length 429.25	Breadth 52.6	Depth 31.1	39.17	
Moulded displacement at moulded draught = 85 per cent. of moulded depth tons				
Coefficient of fineness for use with Tables 0.677.71 (assumed)				

Depth for Freeboard (D) 39.17	Depth correction	Round of Beam correction
Moulded depth 31.1	(a) Where D is greater than Table depth (D - Table depth) R = $(39.21 - 28.62) \times 3 = + 31.77$	Moulded Breadth (B) 52.5
Stringer plate 0.94	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 10.59	Standard Round of Beam = $\frac{B \times 12}{50} = 12.60$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures <input checked="" type="checkbox"/>	Ship's Round of Beam = 12
Depth for Freeboard (D) = 39.21		Difference = .60
		Restricted to
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.60}{4} \times .8683 = +.13$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S)	Height	Height Correction	Effective Length (E)	
Poop enclosed	-					Standard Height of Superstructure 7.5
„ overhang	-					„ „ R.Q.D. 42
R.Q.D. enclosed	-					Deduction for complete superstructure 42
„ overhang	-					Percentage covered $\frac{S}{L} = 26.34$
Bridge enclosed	-					„ „ $\frac{S_1}{L} = 13.17$
„ overhang aft	-					„ „ $\frac{E}{L} =$
„ overhang forward	-					Percentage from Table, Line A. 6.58
F'cle enclosed 113.08	56.54	7.9	-	56.54		(corrected for absence of forecastle (if required))
„ overhang	-					Percentage from Table, Line B. <input checked="" type="checkbox"/>
Trunk aft	-					(corrected for absence of forecastle (if required))
„ forward	-					Interpolation for bridge less than 2L (if required)
Tonnage opening aft	-					Deduction = $42 \times .0658 = - 2.76$
„ „ forward	-					
Total 113.08	56.54			56.54		

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	52.92	1		52.92	48	48	1		48	Mean actual sheer aft = Deficient
$\frac{1}{8}$ L from A.P.	23.55	4		94.22	14	14	4		56	Mean actual sheer forward = Deficient (less than 50%)
$\frac{2}{8}$ L „	5.82	2		11.64	4	4	2		8	Mean standard sheer forward
Amidships	-	4		-	0	-	4		-	Length of enclosed superstructure forward of amidships =
$\frac{3}{8}$ L from F.P.	11.64	2		23.28	3	3	2		6	„ „ aft of „ =
$\frac{4}{8}$ L „	47.11	4		188.44	22	22	4		88	
F.P.	105.85	1		105.85	63	63	1		63	
Total				476.35					269	

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{207.35}{18} \left(.75 - \frac{131.7}{6183} \right) = +7.12$$

If limited on account of midship superstructure. ☒If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ☒

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

$$\begin{aligned} \text{Depth to Freeboard Deck} &= \text{Ft. } 39.21 \\ \text{Summer freeboard} &= 12.44 \\ \text{Moulded draught (d)} &= 26.77 \end{aligned}$$

$$\text{Deduction for Tropical freeboard and addition for Winter freeboard} = \frac{d}{4} \text{ inches} = 6.69 = 6\frac{3}{4}$$

Addition for Winter North Atlantic Freeboard (if required) = ☒

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

$T =$

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

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{.71 + .68}{1.36} = \frac{1.39}{1.36} =$$

Depth Correction **31.77**Deduction for superstructures **2.76**Sheer correction **7.12**Round of Beam correction **.13**Correction for Thickness of Deck amidships **30.55**Other corrections, scantlings, etc. **69.57**Summer Freeboard = **149.25**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck: -

Tropical Fresh Water Line above Centre of Disc	13 1/2	Tropical Fresh Water Freeboard	12 5/4
Fresh Water Line „ „	6 3/4	Fresh Water „ „	11 3 3/4
Tropical Line „ „	6 3/4	Tropical „ „	11 10 1/2
Winter Line below „ „	6 3/4	Winter „ „	11 10 1/2
Winter North Atlantic Line „ „	-	Winter North Atlantic „ „	13 0

2- MAR 1943