

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "WESTWARD"	Official Number 148556	Nationality and Port of Registry BRITISH LONDON	Gross Tonnage	Date of Build
Moulded Dimensions: Length 242.2 Breadth 40.00 Depth 23.67			Port of Survey LONDON	
Moulded displacement at moulded draught = 85 per cent. of moulded depth			Date of Survey 13/12/37 - 13/1/38	
Coefficient of fineness for use with Tables .70 estimated			Surveyor's Signature Arthur N. Smith	
			Particulars of Classification	

Depth for Freeboard (D). Moulded depth ... 23.67 Stringer plate ... 48"04 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .25 \times \frac{34.2}{242.2} = .04$ Depth for Freeboard (D) = 23.75	Depth correction. (a) Where D is greater than Table depth (D - Table depth) R = (23.75 - 16.14) 1.863 = + 14.18" 7.61 (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) = 40.00' Standard Round of Beam = $\frac{B \times 12}{50} = \frac{480}{50} = \mathbf{9.60"}$ Ship's Round of Beam = 10.00" Difference excess = .40" Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.40}{4} \times .1412 = \mathbf{.01"}$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	172.00	172.00	7.75 to 7.0	✓	172.00
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	36.00	36.00	7.0	✓	36.00
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	208.00	208.00			208.00

Standard Height of Superstructure	6.00'
" " R.Q.D.	✓
Deduction for complete superstructure	30.22"
Percentage covered $\frac{S}{L} =$	85.88
" " $\frac{S_1}{L} =$	85.88
" " $\frac{E}{L} =$	85.88
Percentage from Table, Line A.	82.59
(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 =	30.22 x .8259 = 24.96"

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
4-7 A.P. ...	34.22	1	34.22	29.50	29.50	1	29.50		29.50
5-6 1/2 L from A.P. ...	15.23	4	60.92	8.00	8.00	4	32.00		32.00
52-10 1/2 L " ...	3.76	2	7.52	-.50	-.50	2	-1.00		-1.00
53-1 Amidships ...	-	4	-	-	-	4	-		-
54-2 1/2 L from F.P. ...	7.53	2	15.06	11.50	7.69	2	15.38		15.38
55-2 1/2 L " ...	30.46	4	121.84	31.75	31.11	4	124.44		124.44
57-10 F.P. ...	68.44	1	68.44	66.50	69.90	1	69.90		69.90
Total ...			308.00				270.22		270.22

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{37.78}{18} \left(\frac{75-42.94}{2} \right) = \mathbf{+.64"} = \mathbf{3206}$

If limited on account of midship superstructure.

Mean actual sheer aft = **Deficient 57.03% of Standard**
Mean standard sheer aft

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

Length of enclosed superstructure forward of amidships = **Deficient sheer**
aft of " =

STANDARD	ACTUAL	SHEER	FORWARD
34.22 - 1 - 34.22	29.50 - 1 - 29.50	7.53 - 3 - 22.59	11.50 - 3 - 34.50
15.23 - 3 - 45.69	8.00 - 3 - 24.00	30.46 - 3 - 91.38	31.75 - 3 - 95.25
3.76 - 3 - 11.28	-.50 - 3 - -1.50	68.44 - 1 - 68.44	66.50 - 1 - 66.50
	91.19	182.61	196.25

SEE OVER

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Ft. Depth to Freeboard Deck = 23.41 Summer freeboard = 6.46 Moulded draught (d) = 17.25 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = ✓ 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 $T =$ Deduction = $\frac{\Delta}{40T}$ inches $\frac{d}{4} = 4.31"$ $= 4\frac{1}{4}"$	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.70 + .68}{.36} = \mathbf{1.33}$ Depth Correction ... 14.18 Deduction for superstructures ... 24.96 Sheer correction64 Round of Beam correction01 Correction for Thickness of Deck amidships48 Other corrections, scantlings, etc. AND TO CORRESPOND TO A SUBDIVISION MOULDED DRAUGHT OF 17'-3" Summer Freeboard = 44.50
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc ...	4 1/4"	Tropical Fresh Water Freeboard ...	6' 5 1/2"
Fresh Water Line " " ...	4 1/4"	Fresh Water " " ...	6' 1 1/4"
Tropical Line " " ...	NIL	Tropical " " ...	6' 5 1/2"
Winter Line below " " ...	NIL	Winter " " ...	6' 5 1/2"
Winter North Atlantic Line " " ...	NIL	Winter North Atlantic " " ...	6' 5 1/2"

Westward

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.

Allowed shear forward

196.25
182.41
13.84

$$182.41 + (13.84 \times \frac{7.03}{25.0}) = 186.30$$

7.53	x	$\frac{186.30}{182.41}$	=	7.69
30.46	x	"	=	31.11
68.44	x	"	=	69.90

3.89
182.41
186.30

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £



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Foundation