

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "VIKING"	Official Number 118604.	Nationality and Port of Registry British Douglas I.O.M.	Gross Tonnage 1957.	Date of Build 1905.	Port of Survey
Moulded Dimensions: Length 350.0 Breadth 41.83 Depth 17.25					Date of Survey 21. 1. 44.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 3399. tons					Surveyor's Signature
Coefficient of fineness for use with Tables .554 (.68 lowest.)					Particulars of Classification A1 Shelter deck with freeboard. Link channel service

HATC
1.

Depth for Freeboard (D). Moulded depth 17.25 Stringer plate03 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \frac{2.5}{12} \left(\frac{18.5}{350} \right) = .01$ Depth for Freeboard (D) = 17.29.	Depth correction. (a) Where D is greater than Table depth (D - Table depth) R = ✓ (b) Where D is less than Table depth (if allowed) (Table depth - D) R = (23.33 - 17.29) 2.692 = 16.26 If restricted by superstructures YES. NIL.	Round of Beam correction. Moulded Breadth (B) 41.83 Standard Round of Beam = $\frac{B \times 12}{50} = 10.04$ Ship's Round of Beam = 10 Difference .04 deficient Restricted to Correction = $\frac{\text{Diff}^*}{4} \times (1 - \frac{S_1}{L}) = \frac{.04}{4} \times .513 = +.01$
---	---	---

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Loop enclosed	8.50	8.50	8.0	✓	8.50
" overhang	99.50	49.75	"		49.75
Q.D. enclosed					
" overhang					
Bridge enclosed OPEN ...	136.00	68.00	8.0	✓	68.00
" overhang aft					
" overhang forward ...					
Deck enclosed OPEN ...	87.50	44.20	8.0	✓	44.20
" overhang					
Trunk aft					
" forward					
Manhole opening aft ...					
" " forward					
Total	331.50	170.45			170.45

Standard Height of Superstructure **7.00**
 " " R.Q.D. **✓**
 Deduction for complete superstructure **38.67**
 Percentage covered $\frac{S}{L} = 94.72\%$
 " " $\frac{S_1}{L} = 48.70\%$
 " " $\frac{E}{L} = 48.70\%$
 Percentage from Table, Line A. **30.89%**
 (corrected for absence of forecastle (if required))
 Percentage from Table, Line B. **34.89%**
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than .2L (if required)
 $30.89 + \left(\frac{.08}{.70} \times 4 \right) = 34.78$
 Deduction = $38.67 \times .3478 = -13.45$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
... ..	45.00	1		45.00	25.00	25.00	1		25.00
from A.P. ...	20.02	4		80.08	7.50	7.50	4		30.00
" ...	4.95	2		9.90	1.00	1.00	2		2.00
amidships ...	-	4		-	-	-	4		-
from F.P. ...	9.90	2		19.80	5.50	5.50	2		11.00
" ...	40.04	4		160.16	20.50	20.50	4		82.00
" ...	90.00	1		90.00	45.00	45.00	1		45.00
Total ...				404.94					195.00

Mean actual sheer aft = **Deficient.**
 Mean standard sheer aft
 Mean actual sheer forward = **Deficient.**
 Mean standard sheer forward
 Length of enclosed superstructure forward of amidships = **✓**
 " " aft of " = **Deficient**
FORWARD SHEERS

STAND	ACTUAL
29.70	16.50
120.12	41.50
90.00	45.00
239.82	123.00

 $\frac{239.82}{18} = 13.32\%$ $\frac{123.00}{18} = 6.83\%$
 Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{.2L} \right) = \frac{209.94}{18} \left(\frac{.75 - .4776}{.2764} \right) = +3.22$
 If limited to maximum allowance of 1½ ins. per 100 ft.

TOTAL

Correction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 17.29 Summer freeboard = 4.06 Moulded draught (d) = 13.43 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.36 = 3¼ 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 3¼ ✓	TABULAR FREEBOARD corrected for Flush Deck (if required) 56.50 Correction for coefficient NIL. 56.50 <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td>-</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures</td> <td>-</td> <td>13.45</td> </tr> <tr> <td>Sheer correction</td> <td>3.22</td> <td>-</td> </tr> <tr> <td>Round of Beam correction</td> <td>-01</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>2.38</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td>5.61</td> <td>13.45</td> </tr> </table> Summer Freeboard = 48.66		+	-	Depth Correction	-	-	Deduction for superstructures	-	13.45	Sheer correction	3.22	-	Round of Beam correction	-01	-	Correction for Thickness of Deck amidships	2.38	-	Other corrections, scantlings, etc.	-	-		5.61	13.45
	+	-																								
Depth Correction	-	-																								
Deduction for superstructures	-	13.45																								
Sheer correction	3.22	-																								
Round of Beam correction	-01	-																								
Correction for Thickness of Deck amidships	2.38	-																								
Other corrections, scantlings, etc.	-	-																								
	5.61	13.45																								

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

Tropical Fresh Water Line above Centre of Disc	3¼	Tropical Fresh Water Freeboard	4'-0¾
Fresh Water Line	3¼	Fresh Water	3'-9½
Tropical Line	3¼	Tropical	4'-4
Winter Line below	3¼	Winter	4'-4
Winter North Atlantic Line	3¼	Winter North Atlantic	4'-4