

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR ~~STEAMERS~~ ^{MOTOR} SAILING SHIP, TANKER.)

 Index. No. 39121
 (For London Office only).

Ship's Name m/s "VATNAJÖKUL"	Official Number	Nationality and Port of Registry ICELANDIC REYKJAVIK	Gross Tonnage About 700	Date of Build 7 1947	Port of Survey STOCKHOLM
Moulded Dimensions: Length 56.140 m Breadth 9.600 m Depth 4.420 m					Date of Survey WHILE BUILDING
Freeboard 54.280 m					Surveyor's Signature <i>H.O. Allerton</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1422 (english) tons					Particulars of Classification +100A1
Coefficient of fineness for use with Tables .694 ✓					

Depth for Freeboard (D). mm Moulded depth ... 4420 ✓ Stringer plate ... 9 ✓ Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 4429 ✓	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ ✓ $8.33(4.429 - 3.752) 14.212 = +80 \text{ mm}$ $.677$ (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) 9.600 m Standard Round of Beam = $\frac{B \times 100}{50} =$.192 m ✓ Ship's Round of Beam = 0.200 m ✓ Difference + 8 mm ✓ Restricted to Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{8}{4} \times .2746 =$ 1 mm ✓
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S) mm	Equivalent Enclosed Length (S ₁) mm	Height mm	Height Correction	Effective Length (E) mm
Poop enclosed ...	15260 ✓	15260 ✓	2290 ✓	✓	15260 ✓
" overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	19040 ✓	19040 ✓	1219 ✓	✓	19040 ✓
" overhang ...	1120 ✓	560 ✓	-	-	560 ✓
Bridge enclosed ...	-	-	-	-	-
" overhang aft ...	-	-	-	-	-
" overhang forward ...	-	-	-	-	-
F'cle enclosed ...	5180 ✓	5180 ✓	2130 ✓	✓	5180 ✓
" overhang ...	1120 ✓	784 ✓	-	-	784 ✓
Trunk aft ...	-	-	-	-	-
" forward on main dk ...	16800 ✓	-	660	-	-
Tonnage opening aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Total ...	41710 ✓	40824 ✓	-	-	40824 ✓

Standard Height of Superstructure	1.83 m ✓
" " R.Q.D.	1.085 m ✓
Deduction for complete superstructure	622 mm ✓
Percentage covered $\frac{S}{L} =$	74.12 ✓
" " $\frac{S_1}{L} =$	72.54 ✓
" " $\frac{E}{L} =$	66.12 ✓
Percentage from Table, Line A. BB	66.12 ✓
(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 =	622 x .6612 = - 411 mm ✓

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate mm	Effective Ordinate	S M	Product
A.P. ...	723 ✓	1	723 ✓	797	1257 ✓	1	1257 ✓
$\frac{1}{4}$ L from A.P. ...	321 ✓	4	1284 ✓	319	559 ✓	4	2236 ✓
$\frac{2}{4}$ L " ...	80 ✓	2	160 ✓	66	138 ✓	2	276 ✓
Amidships ...	-	4	-	0	-	4	-
$\frac{3}{4}$ L from F.P. ...	161 ✓	2	322 ✓	170	170 ✓	2	340 ✓
$\frac{1}{4}$ L " ...	642 ✓	4	2568 ✓	738	738 ✓	4	2952 ✓
F.P. ...	1446 ✓	1	1446 ✓	1779	1779 ✓	1	1779 ✓
Total ...	-	-	6503 ✓	-	-	-	8840 ✓

Mean actual sheer aft =	} Excess
Mean standard sheer aft =	
Mean actual sheer forward =	}
Mean standard sheer forward =	
Length of enclosed superstructure forward of amidships =	.1095 ✓
" " aft of " =	.5 ✓

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{1337 \times (75 - 3706)}{18 \times 3794} =$ **- 49 mm**

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.

Depth to Freeboard Deck = **5.648** ✓
 Summer freeboard = **1.363** ✓
 Moulded draught (d) = **4.285** ✓

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4} \text{ inches} = 89 \times 3\frac{1}{2} =$ **301.25** ✓
 Addition for Winter North Atlantic Freeboard (required) = **140 x 5\frac{1}{2} =** **770** ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 1662$ ✓
 Tons per inch immersion at summer load water line
 $T = 16.87$ ✓

Deduction = $\frac{\Delta}{40 T} \text{ inches} = \frac{1662}{40 \times 16.87} =$ **2.46** ✓
 $= 2\frac{1}{2}$ ✓

P.T.O.

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.694 + .68}{1.36} = \frac{1.374}{1.36}$ ✓

	+	-
Depth Correction ...	80 ✓	-
Deduction for superstructures ...	-	411 ✓
Sheer correction ...	-	49 ✓
Round of Beam correction ...	-	1 ✓
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	1219 ✓	-
	1299 x 461 ✓	+ 838 ✓
Summer Freeboard =		1363 ✓

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

Tropical Fresh Water Line above Centre of Disc ...	6 ✓
Fresh Water Line " " ...	2\frac{1}{2} ✓
Tropical Line " " ...	3\frac{1}{2} ✓
Winter Line below " " ...	3\frac{1}{2} ✓
Winter North Atlantic Line " " ...	5\frac{1}{2} ✓

Tropical Fresh Water Freeboard ...	4'-5\frac{3}{4}" ✓
Fresh Water " " ...	3'-11\frac{3}{4}" ✓
Tropical " " ...	4'-3\frac{1}{4}" ✓
Winter " " ...	4'-2\frac{1}{4}" ✓
Winter North Atlantic " " ...	4'-11\frac{1}{4}" ✓

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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.

DISPLACEMENT.

Moulded draught	Displacement including shell plating in salt water tons (English).	Tons per inch.
at 95 % moulded depth	1628	16.505
" 85 " " "	1429	14.494
" 75 " " "	1235	12.536

Sheer aft:-

Actual Height of R.A. Deck	=	1219 ^{mm} X	1/2 L	28.140 X	Actual height of Poop	=	2290 X
Std " " " "	=	1085 X	Pooh	15.260 X	Std " " " "	=	1830 X
	excess =	134 X		12.880 X			460 X

$$\text{Virtual Sheer at AP} = \frac{(133 + 134) \times \frac{28.14^2}{12.88^2}}{267} = 1275 \text{ mm} \times$$

$$\text{Actual Sheer at AP} = 797 \text{ '}$$

$$\text{Excess height of Pooh} = \frac{460}{1257 \text{ mm}}$$

$$\therefore \text{Virtual allowed sheer} = 1257 \text{ mm at A.P.} \times$$

Freecastle:-

L/10	5.628 m	S, Freecastle	5.180
		O'hang	1.120
			6.300 m

$$6.300 - 5.628 = .672 \checkmark$$

$$.336 \checkmark$$

$$5.964 \checkmark$$

$$5.180 \checkmark$$

$$.784 \checkmark$$

Trade of ship General.

Names of sister ships -

Builder's name and yard number Messrs. Lidingö Nya Warv & Werkstäder, Lidingö, Yard No. 5.

Owners H/F Jöklar, Reykjavik, Iceland.

Fee £

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