

# LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

## SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

Ship's Name <b>"FREDRIKA"</b>	Official Number <b>9798</b>	Nationality and Port of Registry Swedish Stockholm.	Gross Tonnage <b>2937</b> <del>2950</del> Approx.	Date of Build 1957	Port of Survey Stockholm
Moulded Dimensions: Length 105.155 Breadth 15.392 Depth 6.401 Freeboard Length 105.155 to C/L of rudder stock Moulded displacement at moulded draught = 85 per cent. of moulded depth 5720 m <sup>3</sup> (excluding bossing) Coefficient of fineness for use with Tables 0.650 (Use 0.68)				Upper dk 6.401 Shelter dk 9.144	Date of Survey Whilst building
Surveyor's Signature <i>J. Maclean</i>					Particulars of Classification +100A1

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth ...	6401	(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B)	15392
Stringer plate ...	9	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = 8.33(7.010-6.410) 26.55		Standard Round of Beam = $\frac{B \times 12}{50} = \frac{15.392 \times 12}{50} = 3.68$	
Wood Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$		= 133 mm		Ship's Round of Beam	0
Depth for Freeboard (D) =	6410	If restricted by superstructures		Difference Upper dk Nil. Shelter dk 310	308 mm
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{308}{4} \times \left( 1 - \frac{98.42}{105.155} \right) = +1.2$	

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	36270	36270	2743	nil	36270
" overhang ...	3635	1818			1818
R.Q.D. enclosed ...	63205	63205			63205
" overhang ...	63915	63915	2743	nil	63915
Bridge enclosed ...	715	536			536
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...	1330	1663	2743	nil	1663
Tonnage opening aft ...	5680	1663			
" forward ...					
Total ...	105.155	103.492			103.492

Standard Height of Superstructure 2121 mm

R.Q.D. 974 mm

Deduction for complete superstructure 974 mm

Percentage covered  $\frac{S}{L} = 100\%$

$\frac{S_1}{L} = 98.42\%$

Percentage from Table, Line A. 1 B. 98.03

(corrected for absence of fore-castle (if required))

Percentage from Table, Line B. (corrected for absence of fore-castle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 974 × 98.03 = 955 mm

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	1130	1	1130	782	3844	1	3844		
1/2 L from A.P. ...	502	4	2008	327	1711	4	6844		
1/2 L " ...	126	2	252	83	423	2	846		
Amidships ...	0	4	0	0	0	4	0		
1/2 L from F.P. ...	251	2	502	299	318	2	636		
1/2 L " ...	1004	4	4016	1080	1286	4	5144		
F.P. ...	2260	1	2260	2267	2389	1	2389		
Total ...			10168				20203		

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{10035 \times 25}{18} = -139$

If limited on account of midship superstructure.

Mean actual sheer aft =

Mean standard sheer aft =

Mean actual sheer forward =

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

" " aft of " =

C.S.S./T.O.

Actual sheer height = 2743

Std. " " = 2121

Excess = 622 mm

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 6.410

Summer freeboard = 1.81

Moulded draught (d) = 6.229

Keel allowance =

Extreme draught =

Deduction for Tropical freeboard and addition for =

Winter freeboard =  $\frac{d}{48}$  inches = 130 mm

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 6940$

Tons per inch immersion at summer load water line

$T = 12.83$

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

= 135 mm

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

+	-
	133
	955
	131
1	
11219	-1218

Summer Freeboard = 181 mm

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: Produced to ship's side.

Tropical Fresh Water Line above Centre of Disc ... 2.65

Fresh Water Line " " ... 1.35

Tropical Line " " ... 1.30

Winter Line below " " ... 1.30

Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ... 84 mm

Fresh Water " " ... 46 mm

Tropical " " ... 51 mm

Winter " " ... 311 mm

Winter North Atlantic " " ...



Fredrika.

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.

	Ext. á 1000 kg. salt water	Mld. m <sup>3</sup>	Ton/cm á 1000 kg.
100 % mld depth	7150	6930	12.95
95 % " "	<del>6940</del>	<del>5970</del>	12.72
85 % " "	5900	5720	12.32
75 % " "	5080	4930	11.99

Length for freeboard.

AP - 0 = .250.  
 0 - 9 @ .610 = 5.490  
 9 - 114 @ .710 = 74.550  
 114 - 138 @ .685 = 16.440  
 138 - 151 @ .610 = 7.930.  
 151 - FP. = .496

105.156 m.

b<sub>+</sub>

5720 = .656  
 105.155 x 15.392 x 6.401 x .85

Corrections for sheer

Left Sheer at poop front = 40 mm.  
 Allowable sheer = 40 + 622 = 662 mm. (at poop front)  
 " " at A.P. =  $662 \times \frac{52.578^2}{11.338^2} = 14238 \text{ mm.}$

Permissible sheer at AP

Actual sheer = 702 ✓  
 Excess tween dh. ht = 622 ✓  
 Ht of poop =  $\frac{2440}{3844} \text{ mm}$

Trade of ship International

Names of sister ships "SVENSKSUND" A/B Finnboda Varf's Yard No. 367, Skm. Rpt. No. 10975.

Builder's name and yard number A/B Finnboda Varf- Yard No. 368. 45636

Owners Rederi A/B Fredrika, Stockholm.

Fee 4.605:-

Ref.

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)

Plans forwarded with First Entry for "SVENSKSUND".



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