

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>SOLVICKIAN.</b>	Official Number	Nationality and Port of Registry <b>NORWEGIAN BERGEN.</b>	Gross Tonnage <b>3113.</b>	Date of Build <b>1949.</b>	Port of Survey
Moulded Dimensions: Length <b>340.0'</b> Breadth <b>52.0'</b> Depth <b>20.83.</b>					Date of Survey <b>21-8-49.</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>6340.</b> tons					Surveyor's Signature
Coefficient of fineness for use with Tables <b>.709.</b>					Particulars of Classification <b>+work</b>

DEPTH FOR FREEBOARD (D).				
Moulded depth	...	...	...	<b>20.83</b>
Stringer plate	...	...	...	<b>.03</b>
Sheathing on exposed deck	$T \left( \frac{L-S}{L} \right) =$			
Depth for Freeboard (D) =	<b>20.86.</b>			

DEPTH CORRECTION.	
(a) Where D is greater than Table depth (D-Table depth) R =	<b>✓</b>
(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	<b>(22.87-20.86) 2.015 = -4.77.</b>
If restricted by superstructures	<b>✓</b>

ROUND OF BEAM CORRECTION.	
Moulded Breadth (B)	<b>52'</b>
Standard Round of Beam = $\frac{B \times 12}{50}$	<b>= 12.48</b>
Ship's Round of Beam	<b>= 12.48.</b>
Difference	<b>12.48.</b>
Restricted to	<b>12.48.</b>
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right)$	<b>= <math>\frac{12.48^2}{4} \times .0065 = +.02</math></b>

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed	27.56	27.56			27.56.
" overhang	.33	.17			.17.
R.Q.D. enclosed					
" overhang					
Bridge enclosed	308.17	308.17	9.67	✓	308.17.
" overhang aft					
" overhang forward					
File enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft	3.94	1.89			1.89.
" forward					
Total	340.00.	337.79.			337.79.

Standard Height of Superstructure	<b>6.90.</b>
" " R.Q.D.	<b>✓</b>
Deduction for complete superstructure	<b>38.00.</b>
Percentage covered $\frac{S}{L} =$	<b>100.</b>
" $\frac{S_1}{L} =$	<b>99.35</b>
" $\frac{E}{L} =$	<b>99.35.</b>
Percentage from Table, Line A. 23.	<b>99.20.</b>
(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 = $38.00 \times .9926 =$	<b>37.70.</b>

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	44.00	1	✓	44.00	47.25	93.98	1	✓	93.98
$\frac{1}{2}L$ from A.P.	19.54	4	✓	78.32	20.47	41.815	4	✓	167.26
$\frac{1}{4}L$ "	4.84	2	✓	9.68	5.71	10.84	2	✓	20.68
Amidships	✓	4	✓	✓	✓	✓	4	✓	✓
$\frac{1}{4}L$ from F.P.	9.68	2	✓	19.36	11.81	15.15	2	✓	30.30
$\frac{1}{2}L$ "	39.16	4	✓	156.64	43.75	61.31	4	✓	245.24
F.P.	98.00	1	✓	98.00	104.65	137.77	1	✓	137.77
Total				396.00	+33.12				695.23

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{S}{2L} \right) = \frac{299.23}{18} \times .25 = -4.16.$   
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 " =

Actual Tonnage height = 9.67  
Standard " " = 6.90  
 $\frac{9.67}{2.77} \times 12.33 = 24$

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck =	<b>20.86.</b>
Summer freeboard =	<b>.69.</b>
Moulded draught (d) =	<b>20.17.</b>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =	<b>5.04 = 5"</b>
Addition for Winter North Atlantic Freeboard (if required) =	<b>✓</b>

## 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 = $\frac{\Delta}{40 T}$ inches	<b><math>\frac{4}{4} = 5"</math></b>

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.709 + .68}{1.36} = \frac{1.389}{1.36}$

	+	-
Depth Correction	✓	4.73.
Deduction for superstructures	✓	37.70.
Sheer correction	✓	4.16.
Round of Beam correction	✓	.02
Correction for Thickness of Deck amidships	✓	-
Other corrections, scantlings, etc.	✓	-
Summer Freeboard =	<b>46.59.</b>	<b>46.57.</b>

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

Tropical Fresh Water Line above Centre of Disc	10'	254 mm	Tropical Fresh Water Freeboard	10'	254 mm
Fresh Water Line	5'	127	Fresh Water	5'	127
Tropical Line	5'	127	Tropical	5'	127
Winter Line below	5'	127	Winter	5'	127
Winter North Atlantic Line	5'	127	Winter North Atlantic	5'	127

0' - 8 1/4" 210 mm.  
0' - 1 3/4" (44 mm) 44 mm (Minus).  
0' - 3 1/4" 83 mm  
0' - 3 1/4" 83 mm  
1' - 1 1/4" 337 mm

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