

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name ASK.	Official Number	Nationality and Port of Registry BERGEN NORWEGIAN.	Gross Tonnage 1558	Date of Build 1917-11.	Port of Survey
Moulded Dimensions: Length 240.05' Breadth 36.0' Depth 20.52'					Date of Survey 30.10.51.
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) 3204. tons					Surveyor's Signature
Coefficient of fineness for use with Tables .744.					Particulars of Classification +100 A1.

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 20.52.	(a) Where D is greater than Table depth (D-Table depth) R = (20.52-16.00) 1.846. = +8.42"	Moulded Breadth (B) 36.0'
Stringer plate04.	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{36 \times 12}{50} = 8.64$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 9.00.
Depth for Freeboard (D) = 20.56.		Difference .36.
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.36}{4} \times 3069. = -.03$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed	91.39	91.39	1.5	1.5/3.933	34.85.
" overhang					
Bridge enclosed	51.75	51.75	7.0	✓	51.75.
" overhang aft					
" overhang forward	50	25			25.
Fore enclosed	23.00	23.00	7.0	✓	23.00.
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	166.64	166.39.			109.85.

Standard Height of Superstructure	6.0.
" " R.Q.D.	3.933.
Deduction for complete superstructure	30.0
Percentage covered $\frac{S}{L} =$	69.42.
" " $\frac{S_1}{L} =$	69.31.
" " $\frac{E}{L} =$	45.76.
Percentage from Table, Line A. ✓	
(corrected for absence of forecastle (if required)).	
Percentage from Table, Line B. 32.39.	
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required) ✓	
Deduction = 30 + .3239 = -9.72.	

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	34.00	1	34.00.	42.00.	42.00.	1	42.00.
$\frac{1}{4}$ L from A.P.	15.13.	4	60.52.	18.96.	18.96.	4	75.84.
$\frac{2}{4}$ L "	3.74.	2	7.48.	4.74.	4.74.	2	9.48.
Amidships	✓	4	✓	✓	✓	4	✓
$\frac{3}{4}$ L from F.P.	7.48.	2	14.96.	8.10.	8.10.	2	16.20.
$\frac{1}{4}$ L "	30.26.	4	121.04.	32.39.	32.39.	4	129.56.
F.P.	68.01.	1	68.01.	72.00.	72.00.	1	72.00.
Total			306.01.				345.08.

Mean actual sheer aft =
Mean standard sheer aft = } **EXCESS.**

Mean actual sheer forward =
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = **.096.**
" " aft of " = **.710.**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75-S}{.2L} \right) = \frac{39.07}{18} \left(\frac{.75-.3471}{.2} \right) = -.87.$
If limited on account of midship superstructure. **.87 + .196 = -.85"**

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 = 20.56. Summer freeboard = 2.46. Moulded draught (d) = 18.10. Keel allowance = .10. Extreme draught = 18.20. Addition for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4.52 = 4\frac{1}{2}" Addition for Winter North Atlantic Freeboard (if required) = 6\frac{1}{2}"	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 $\frac{2}{4} = 4\frac{1}{2}"$	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{744+.68}{1.26} = 1.424$ <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td>8.42</td> <td>✓</td> </tr> <tr> <td>Deduction for superstructures</td> <td>✓</td> <td>9.72.</td> </tr> <tr> <td>Sheer correction</td> <td>✓</td> <td>.85</td> </tr> <tr> <td>Round of Beam correction</td> <td>✓</td> <td>.03</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>✓</td> <td>✓</td> </tr> <tr> <td></td> <td>8.42.</td> <td>10.60.</td> </tr> <tr> <td>Summer Freeboard =</td> <td>29.56</td> <td>-2.18</td> </tr> </table>		+	-	Depth Correction	8.42	✓	Deduction for superstructures	✓	9.72.	Sheer correction	✓	.85	Round of Beam correction	✓	.03	Correction for Thickness of Deck amidships	✓	✓	Other corrections, scantlings, etc.	✓	✓		8.42.	10.60.	Summer Freeboard =	29.56	-2.18
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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	9"	228-1/4"	Tropical Fresh Water Freeboard	1'-8 1/2"	52 1/2"
Fresh Water Line	4 1/2"	114-1/4"	Fresh Water	2'-1"	63 1/2"
Tropical Line	4 1/2"	114-1/4"	Tropical	2'-1"	63 1/2"
Winter Line below	4 1/2"	114-1/4"	Winter	2'-10"	86 3/4"
Winter North Atlantic Line	6 1/2"	164-1/4"	Winter North Atlantic	3'-0"	113 1/4"