

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name ERULIN. OUTARDE	Official Number 148087	Nationality and Port of Registry British Montreal.	Gross Tonnage 2241	Date of Build 1924 8.	Port of Survey Chicago, Ill.
Moulded Dimensions: Length 248' 00 Breadth 42' 83 Depth 25' 00					Date of Survey 9th April 1934.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 5445 tons					Surveyor's Signature Geo. Allw.
Coefficient of fineness for use with Tables .849.					Particulars of Classification + 100 A1 WITH FREEBOARD. FOR SERVICE ON THE GREAT LAKES AND RIVER ST. LAWRENCE, AND TO SYDNEY C.B. FROM APRIL TO CLOSE OF NAVIGATION.

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth 25.00	(a) Where D is greater than Table depth (D - Table depth) R = (25.05 - 16.53) 1.908 = + 16.26	Moulded Breadth (B) = 42.83'
Super plate05	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 8.52	Standard Round of Beam = $\frac{B \times 12}{50}$ = 10.28"
Nothing on exposed deck ✓	✓	Ship's Round of Beam = 10.50"
$T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Difference excess = .22"
Depth for Freeboard (D) = 25.05		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right)$ = $\frac{.22}{4} \times .8307 = -.05"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Loop enclosed					
„ overhang					
R.Q.D. enclosed					
„ overhang					
Bridge enclosed					
„ overhang aft					
„ overhang forward					
„ enclosed	42.00	42.00	7.25	✓	42.00
„ overhang					
„ forward					
„ opening aft					
„ „ forward					
Total	42.00	42.00			42.00

Standard Height of Superstructure	6.00'
„ „ R.Q.D.	✓
Deduction for complete superstructure	30.80"
Percentage covered $\frac{S}{L} =$	16.93
„ „ $\frac{S_1}{L} =$	16.93
„ „ $\frac{E}{L} =$	16.93
Percentage from Table, Line A.	8.46
(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 = 30.80 x .0846 = -2.61"	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	34.80	1	34.80	12.00	12.00	1	12.00	12.00	12.00
„ L from A.P.	15.49	4	61.96	1.50	1.50	4	6.00	6.00	6.00
„ „	3.83	2	7.66	-	-	2	-	-	-
„ amidships	-	4	-	-	-	4	-	-	-
„ L from F.P.	7.65	2	15.30	-	-	2	-	-	-
„ „	30.97	4	123.88	3.50	3.50	4	14.00	14.00	14.00
„ F.P.	69.60	1	69.60	36.00	36.00	1	36.00	36.00	36.00
Total			313.20				68.00		68.00

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 = Deficient	
„ „ aft of „ = sheers.	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{245.20}{18} (.75 - .0846) = + 9.06"$
If limited on account of midship superstructure. If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard.	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 $\frac{1}{4} = 4 \frac{3}{4}"$	TABULAR FREEBOARD (corrected for Fresh Deck (if required)) Correction for coefficient $\frac{.849 + .68}{1.36} = \frac{1.529}{1.36}$ Depth Correction 16.26 Deduction for superstructures - 2.61 Sheer correction 9.06 Round of Beam correction05 Correction for Thickness of Deck amidships - Other corrections, scantlings, 9.72 35.04 2.66 + 32.38 Summer Freeboard = 68.25
Depth to Freeboard Deck = 25.05'		
Summer freeboard = 5.70.69		
Moulded draught (d) = 19.356		
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4.84 = 4 3/4"		
Addition for Winter North Atlantic Freeboard (if required) = ✓		

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

Tropical Fresh Water Line above Centre of Disc	5' 8 1/4"
Fresh Water Line	5' 3 1/2"
Tropical Line	5' 3 1/2"
Winter Line below	6' 1"
Winter North Atlantic Line	✓

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