

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name EMPIRE LEOPARD <i>2A</i> "ONOMEA"	Official Number 168051	Nationality and Port of Registry British	Gross Tonnage 5520	Date of Build 1917	Port of Survey Baltimore, Maryland
Moulded Dimensions: Length 410.46 Breadth 54.0 Depth 29.75					Date of Survey 29th & 30th Aug. 1940
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12888 tons					Surveyor's Signature <i>J.B. Buchanan</i>
Coefficient of fineness for use with Tables .805					Particulars of Classification * 100 A1 Contemplated

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 29.75	(a) Where D is greater than Table depth $(D - \text{Table depth}) R = 6$ $(29.79 - 27.38) \times 3.00 = +7.38$ 2.413	Moulded Breadth (B) 54
Stringer plate04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 12.96$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures <input checked="" type="checkbox"/>	Ship's Round of Beam = 13.50
Depth for Freeboard (D) = 29.79		Difference .54
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.54}{4} \times .4987 = -.07$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	43.00 43.75	43.75	8.0		43.00 43.75	Standard Height of Superstructure 7.5
" overhang ...	-					" " R.Q.D. <input checked="" type="checkbox"/>
R.Q.D. enclosed ...	-					Deduction for complete superstructure 42
" overhang ...	-					Percentage covered $\frac{S}{L} =$
Bridge enclosed ...	115.00	115.00	8.5		115.00	" $\frac{S_1}{L} =$ 50.13
" overhang aft ...	-					" $\frac{E}{L} =$
" overhang forward ...	-					Percentage from Table, Line A. <input checked="" type="checkbox"/>
F'cle enclosed ...	47.00	47.00	8.0		47.00	(corrected for absence of forecastle (if required))
" overhang ...	-					Percentage from Table, Line B. 36.13
Trunk aft ...	-					(corrected for absence of forecastle (if required))
" forward ...	-					Interpolation for bridge less than 2L (if required) <input checked="" type="checkbox"/>
Tonnage opening aft ...	-					Deduction = 42 x .3613 = -15.17
" " forward ...	-					
Total ...	205.75	205.75			205.75	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	51.00	1		51.00	67.25	67.25	1		67.25	Mean actual sheer aft = Mean standard sheer aft = 51.00
$\frac{1}{2}$ L from A.P. ...	22.695	4		90.78	30.50	30.50	4		122.00	
$\frac{3}{4}$ L " ...	5.615	2		11.23	6.00	6.00	2		12.00	Mean actual sheer forward = Mean standard sheer forward = 51.00
Amidships ...	-	4		-	-	-	4		-	
$\frac{3}{4}$ L from F.P. ...	11.22	2		22.44	12.00	12.00	2		24.00	Length of enclosed superstructure forward of amidships = 7.1
$\frac{1}{2}$ L " ...	45.39	4		181.56	53.00	53.00	4		212.00	
F.P. ...	102.00	1		102.00	135.25	135.25	1		135.25	" " aft of " = 7.1
Total ...				459.60					572.50	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - \frac{S}{2L}}{.75} \right) = \frac{113.09}{18} \left(\frac{.75 - .2507}{.75} \right) = -3.14$
If limited on account of midship superstructure. **4993** 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 = 29.79 Summer freeboard = 5.87 Moulded draught (d) = 23.92 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 5.98 = 6" Addition for Winter North Atlantic Freeboard (if required) =	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 12100$ (estimated) Tons per inch immersion at summer load water line $T = 46.1$ Deduction = $\frac{\Delta}{40T}$ inches = 6.56 6.5	TABULAR FREEBOARD corrected for Fresh Deck (if required) Correction for coefficient $\frac{.805 + .68}{1.36} = 1.485/1.36$ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td>7.38</td> <td></td> </tr> <tr> <td>Deduction for superstructures ...</td> <td></td> <td>15.17</td> </tr> <tr> <td>Sheer correction ...</td> <td></td> <td>3.14</td> </tr> <tr> <td>Round of Beam correction ...</td> <td></td> <td>.07</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>7.29</td> <td>18.38</td> <td>-11.09</td> </tr> <tr> <td colspan="3">Summer Freeboard = 70.53</td> </tr> </table>		+	-	Depth Correction ...	7.38		Deduction for superstructures ...		15.17	Sheer correction ...		3.14	Round of Beam correction07	Correction for Thickness of Deck amidships ...			Other corrections, scantlings, etc. ...			7.29	18.38	-11.09	Summer Freeboard = 70.53			74.60.75 81.46.62 82.8 29.60.40
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc ... 12 1/2"	Tropical Fresh Water Freeboard ... 5'-10 1/2"
Fresh Water Line " " ... 6 1/2"	Fresh Water " " ... 5'-4"
Tropical Line " " ... 6"	Tropical " " ... 5'-4 1/2"
Winter Line below " " ... 6"	Winter " " ... 6'-4 1/2"
Winter North Atlantic Line " " ... 5"	Winter North Atlantic " " ... 6'-4 1/2"

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the Surveyor should endorse the form on this side with his signature and the date.

Trade of ship _____

Names of sister ships _____

Builder's name and yard number Skinner & Eddy Corporation - No. 10

Owners Ministry of Shipping

Fee £ To Be Charged in London

Exs. \$2.50 applied for Sept. 16, 1940