

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>"EMPIRE ALDE"</b> (EX DELIKAN)	Official Number <b>181664</b>	Nationality and Port of Registry <b>LONDON.</b>	Gross Tonnage <b>3669</b>	Date of Build <b>1935</b>	Port of Survey <b>Hamburg</b>
Moulded Dimensions: Length <b>349'-5 1/8" B.P.</b> Breadth <b>44'-6 1/2"</b> Depth <b>21'-7 3/4"</b> <b>351'-3" 1/2 centre of rudder stock.</b> Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>4760 7190</b> tons Coefficient of fineness for use with Tables <b>.68 (actual .658)</b>					Date of Survey <b>March 1947</b>
Surveyor's Signature <b>R. E. Richard</b>					Particulars of Classification <b>Class contemplated.</b>

<b>DEPTH FOR FREEBOARD (D).</b> Moulded depth ... <b>21'-7 3/4"</b> Stringer plate <b>13 in.</b> ... <b>28.71</b> Sheathing on exposed deck <b>12 in.</b> ... <b>.04</b> $T \left( \frac{L-S}{L} \right) = 5521 \times \frac{2.83}{12} = 13$ Depth for Freeboard (D) = <b>28.88</b>	<b>DEPTH CORRECTION.</b> (a) Where D is greater than Table depth (D-Table depth) R = <b>(28.88 - 23.42) 2.702 = +14.75</b> (b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>5.46</b> If restricted by superstructures <b>✓</b>	<b>ROUND OF BEAM CORRECTION.</b> Moulded Breadth (B) <b>44'-6 1/2"</b> Standard Round of Beam = $\frac{B \times 12}{50} = 10.71$ Ship's Round of Beam = <b>10 5/8"</b> Difference <b>.08"</b> Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.08^2}{4} \times \left( 1 - \frac{5521}{4} \right) = .01$
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DEDUCTION FOR SUPERSTRUCTURES.					
	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed	56.73	56.73	7'-3 3/4"	✓	56.73
" overhang					
R.Q.D. enclosed	Complete				
" overhang	super		7'-3 3/4"		
Bridge enclosed	structure				
" overhang aft	deck				
" overhang forward					
F'cle enclosed	100.62	100.62	7'-3 3/4"	✓	100.62
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	157.35	157.35			157.35

Standard Height of Superstructure	<b>7.013'</b>
" " R.Q.D.	<b>38.75"</b>
Deduction for complete superstructure	
Percentage covered $\frac{S}{L} =$	} <b>44.79</b>
" " $\frac{S_1}{L} =$	
" " $\frac{E}{L} =$	
Percentage from Table, Line A.	<b>27.57</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 = $38.75 \times 27.57 =$	<b>- 10.68</b>

SHEER CORRECTION.							
Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P.	45.13	1	45.13	1'-7 3/4"	19.75	1	19.75
1/4 L from A.P.	20.085	4	80.34	1"	1.00	4	4.00
1/2 L	4.965	2	9.93	✓	-	2	-
Amidships	-	4	-	✓	-	4	-
3/4 L from F.P.	9.98	2	19.86	✓	-	2	-
1/4 L	40.17	4	160.68	1'-1"	13.00	4	52.00
F.P.	90.26	1	90.26	2'-11"	59.00	1	59.00
Total			406.20				134.75

Mean actual sheer aft = **Sufficient.**  
 Mean standard sheer aft = **Sufficient.**  
 Mean actual sheer forward = **Sufficient.**  
 Mean standard sheer forward = **Sufficient.**  
 Length of enclosed superstructure forward of amidships = **Nil**  
 " " aft of " = **Nil.**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{271.45 - 2240}{18} = +7.93"$   
 If limited on account of midship superstructure. ✓  
 If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <b>28.99</b> Summer freeboard = <b>8.90</b> Moulded draught (d) = <b>20.09</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>5.02 = 5</b> Addition for Winter North Atlantic Freeboard (if required) =	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta = 5600$ ✓ Tons per inch immersion at summer load water line $T = 31.04$ Deduction = $\frac{\Delta}{40 T}$ inches = <b>4.51</b> $d_4 = 5" = 4 1/2"$	<b>TABULAR FREEBOARD corrected for Flush Deck (if required)</b> Correction for coefficient <b>Nil.</b> <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td>14.75</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures</td> <td>-</td> <td>10.68</td> </tr> <tr> <td>Sheer correction</td> <td>7.93</td> <td>-</td> </tr> <tr> <td>Round of Beam correction</td> <td>.01</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>1.27</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc. to correct</td> <td>36.59</td> <td>-</td> </tr> <tr> <td>with a summer moulded draught of 20'-1 1/2" (20'-1 1/8" actual)</td> <td>60.55</td> <td>10.68</td> </tr> <tr> <td>Summer Freeboard =</td> <td colspan="2"><b>106.75</b></td> </tr> </table>		+	-	Depth Correction	14.75	-	Deduction for superstructures	-	10.68	Sheer correction	7.93	-	Round of Beam correction	.01	-	Correction for Thickness of Deck amidships	1.27	-	Other corrections, scantlings, etc. to correct	36.59	-	with a summer moulded draught of 20'-1 1/2" (20'-1 1/8" actual)	60.55	10.68	Summer Freeboard =	<b>106.75</b>	
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### SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line

2 1/8" Wood, Deck :-		
Tropical Fresh Water Line above Centre of Disc	9 1/2"	Tropical Fresh Water Freeboard
Fresh Water Line	4 1/2"	Fresh Water
Tropical Line	5"	Tropical
Winter Line below	5"	Winter
Winter North Atlantic Line	✓	Winter North Atlantic



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.

omit

Trade of ship Carrriage of fruit and other refrigerated cargoes.

Names of sister ships ✓

Builder's name and yard number Bremer Vulkan No 712.

Owners Messrs Elders & Lyffers Ltd

Fee £ 28 : 0 : 0

A/c rendered from  
London. 6.5.47



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