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Index. No. 36268  
 (For London Office only)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Nº 33028

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>EMPIRE SILVER</b> <b>SYLVAFIELD</b>	Official Number <b>168663</b>	Nationality and Port of Registry <b>BRITISH</b> <b>SUNDERLAND</b> <b>NEWCASTLE</b>	Gross Tonnage <b>8602</b>	Date of Build <b>1941</b>	Port of Survey <b>Sunderland</b>
Moulded Dimensions: Length <b>464.00</b> Breadth <b>61.75</b> Depth <b>34.00</b> To centre of Rudder Stock <b>464.75</b>					Date of Survey <b>While Building</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>18258</b> tons					Surveyor's Signature <b>W. E. Miller</b>
Coefficient of fineness for use with Tables <b>.771</b>					Particulars of Classification <b>+100 A.1.</b> <b>Carrying Petroleum in Bulk</b> <b>(contemplated)</b>

<b>Depth for Freeboard (D).</b> Moulded depth ... <b>34.00</b> Stringer plate ... <b>.08</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <b>.771</b> Depth for Freeboard (D) = <b>34.08</b>	<b>Depth correction.</b> (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(34.08 - 30.98) \times 3 = +9.30$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ If restricted by superstructures	<b>Round of Beam correction.</b> Moulded Breadth (B) <b>61.75</b> Standard Round of Beam = $\frac{B \times 12}{50} = 14.82$ Ship's Round of Beam = <b>15.00</b> Difference <b>.18</b> Restricted to Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.18}{4} \times .5640 = .03$
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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 ...	<b>112.08</b>	<b>112.08</b>	✓	<b>8.0</b>	<b>112.08</b>	Standard Height of Superstructure <b>7.5</b>
" overhang ...						" " R.Q.D.
R.Q.D. enclosed ...						Deduction for complete superstructure <b>42.00</b>
" overhang ...						Percentage covered $\frac{S}{L} =$ <b>43.60</b>
Bridge enclosed ...	<b>35.67</b>	<b>35.67</b>	✓	<b>8.0</b>	<b>35.67</b>	" $\frac{S_1}{L} =$ <b>43.60</b>
" overhang aft ...						" $\frac{E}{L} =$ <b>43.60</b>
" overhang forward	<b>54.88</b>	<b>54.88</b>	✓	<b>8.0</b>	<b>54.88</b>	Percentage from Table, Line A. <b>Tanker 34.60</b>
Fore enclosed ...	<b>54.88</b>	<b>54.88</b>				(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than .2L (if required)
Tonnage opening aft ...						Deduction = <b>42 x 34.60 = -14.53</b>
" " forward	<b>202.63</b>	<b>202.63</b>				
Total ...	<b>202.28</b>	<b>202.63</b>			<b>202.63</b>	

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<b>56.47</b>	1		<b>56.47</b>	<b>58.25</b>	<b>58.25</b>	1		<b>58.25</b>	Mean actual sheer aft = <b>Excess</b>
$\frac{1}{4}$ L from A.P. ...	<b>25.13</b>	4		<b>100.52</b>	<b>27.50</b>	<b>27.50</b>	4		<b>110.00</b>	Mean actual sheer forward = <b>Excess</b>
$\frac{1}{2}$ L " ...	<b>6.21</b>	2		<b>12.43</b>	<b>7.13</b>	<b>7.13</b>	2		<b>14.26</b>	Mean standard sheer forward
Amidships ...	-	4		-	-	-	4		-	Length of enclosed superstructure forward of amidships =
$\frac{3}{4}$ L from F.P. ...	<b>12.43</b>	2		<b>24.86</b>	<b>12.50</b>	<b>12.50</b>	2		<b>25.00</b>	" " aft of " =
$\frac{1}{4}$ L " ...	<b>50.27</b>	4		<b>201.08</b>	<b>50.75</b>	<b>50.75</b>	4		<b>203.00</b>	
F.P. ...	<b>112.95</b>	1		<b>112.95</b>	<b>115.50</b>	<b>115.50</b>	1		<b>115.50</b>	
Total ...				<b>508.31</b>					<b>526.01</b>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{17.70}{18} \left( \frac{75-21.80}{21.80} \right) = -.52$   
 If limited on account of midship superstructure.

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <b>34.08</b> Summer freeboard = <b>6.54</b> Moulded draught (d) = <b>27.54</b> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>6.89 = 7"</b> Addition for Winter North Atlantic Freeboard (if required) = <b>6.89 + 4.65 = 11.54 = 11½"</b>	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta =$ <b>17325</b> Tons per inch immersion at summer load water line $T =$ <b>58.9</b> Deduction = $\frac{\Delta}{40T}$ inches = <b>7.35</b> <b>= 7¼"</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient <b>.771 + .68 = 1.451 / 1.36</b> Depth Correction ... <b>9.30</b> Deduction for superstructures ... <b>14.53</b> Sheer correction ... <b>.52</b> Round of Beam correction ... <b>.03</b> Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... <b>9.30 15.08 - 5.78</b> <b>Summer Freeboard = 78.39</b>
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### SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:

21 JAN 1941

Tropical Fresh Water Line above Centre of Disc	<b>14¼"</b>
Fresh Water Line	<b>7¼"</b>
Tropical Line	<b>7"</b>
Winter Line below	<b>7"</b>
Winter North Atlantic Line	<b>11½"</b>

Tropical Fresh Water Freeboard	<b>6'-6½"</b>
Fresh Water	<b>5'-4¼"</b>
Tropical	<b>5'-11¼"</b>
Winter	<b>5'-11½"</b>
Winter North Atlantic	<b>7'-6"</b>

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# Empire Silver

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.

Displacement at 27'-7<sup>3</sup>/<sub>4</sub>" draft = 17325 tons  
Tons Per Inch = 58.9

Equivalent Bulkheads.

Prop. 108.67  
+  $\frac{2}{3} \times 4$  2.66  
111.33  
A.P. to centre  
of stock .75  
112.08.

Bridge 33.00  
+  $\frac{2}{3} \times 4$  1.67  
35.67

Forecastle 60.75  
Recess =  $11.25 \times 30 = -5.87$   
57.54 54.88 overhang = nil

Trade of ship

Tanker

Names of sister ships

BRITISH PRUDENCE Laing No. 723

Builder's name and yard number

Sir James Laing & Sons Ltd No. 733

Owners

Ministry of Shipping

Fee £

19

Will be charged on completion



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