

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

N^o 33666

Ship's Name <u>Empire Deed</u> (Bartram's Yard No. 295)	Official Number <u>169113</u>	Nationality and Port of Registry <u>British</u> <u>Sunderland</u>	Gross Tonnage <u>6766</u>	Date of Build <u>1943</u>	Port of Survey <u>Sunderland</u>
Moulded Dimensions: Length <u>440</u> Breadth <u>56.29</u> Depth <u>36.66</u> <u>To centre of rudder stock 440.53</u>					Date of Survey <u>When building</u>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>15611</u> tons					Surveyor's Signature <u>Jos Rennie</u>
Coefficient of fineness for use with Tables <u>.759</u>					Particulars of Classification <u>100 A1 with</u> <u>freeboard (contemplated)</u>

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... <u>36.66</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(36.73 - 27.37) 3 = +28.08</u> <u>9.36</u>	Moulded Breadth (B) <u>56.29</u>
Stringer plate ... <u>80</u> ... <u>.66</u> ... <u>.07</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>✓</u>	Standard Round of Beam = $\frac{B \times 12}{50}$ = <u>13.51</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures <u>✓</u>	Ship's Round of Beam = <u>12</u>
Depth for Freeboard (D) = <u>36.73</u>		Difference = <u>1.51</u>
		Restricted to <u>✓</u>
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right)$ = $\frac{1.51}{4} = +.38$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure <u>7.5</u>
„ overhang ...						„ „ R.Q.D. <u>✓</u>
R.Q.D. enclosed ...						Deduction for complete superstructure <u>42.00</u>
„ overhang ...						Percentage covered $\frac{S}{L} =$
Bridge enclosed ...						„ „ $\frac{S_1}{L} =$ } <u>Flush Deck</u>
„ overhang aft ...						„ „ $\frac{E}{L} =$
„ overhang forward						Percentage from Table, Line A.
F'cle enclosed ...						(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 = <u>NIL</u>
„ „ forward						
Total ...						

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>51.05</u>	1		<u>51.05</u>	<u>12.00</u>	<u>72.00</u>	1		<u>72.00</u>	Mean actual sheer aft =
1/4 L from A.P. ...	<u>22.72</u>	4		<u>90.88</u>	<u>32.00</u>	<u>32.00</u>	4		<u>128.00</u>	Mean standard sheer aft =
2/4 L „ ...	<u>5.615</u>	2		<u>11.23</u>	<u>5.15</u>	<u>5.75</u>	2		<u>11.50</u>	Mean actual sheer forward = } <u>Excess</u>
Amidships ...	-	4		-	-	-	4		-	Mean standard sheer forward =
3/4 L from F.P. ...	<u>11.23</u>	2		<u>22.46</u>	<u>7.50</u>	<u>7.50</u>	2		<u>15.00</u>	Length of enclosed superstructure forward of amidships =
1/4 L „ ...	<u>45.435</u>	4		<u>181.74</u>	<u>54.75</u>	<u>54.75</u>	4		<u>219.00</u>	„ „ aft of „ = } <u>Flush Deck</u>
F.P. ...	<u>102.11</u>	1		<u>102.11</u>	<u>132.00</u>	<u>132.00</u>	1		<u>132.00</u>	
Total ...				<u>459.47</u>					<u>577.50</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{24} \right) = \frac{118.03}{18} \times .75 = -4.92$
If limited on account of midship superstructure. No. Flush Deck If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.759 + .68}{1.36} = 1.439 / 1.36$	<u>80.93</u>
Depth to Freeboard Deck = <u>36.73</u>	$\Delta = 13054 \text{ Tons}$	Depth Correction ... <u>28.08</u>	
Summer freeboard = <u>10.39</u>	Tons per inch immersion at summer load water line <u>26.62</u>	Deduction for superstructures ...	<u>82.3</u>
Moulded draught (d) = <u>26.34</u>	T = <u>45.44</u>	Sheer correction ... <u>4.92</u>	<u>13.443</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.59 = 6 1/2</u>	Deduction = $\frac{\Delta}{40 T}$ inches = <u>7.18</u>	Round of Beam correction ... <u>.38</u>	
Addition for Winter North Atlantic Freeboard (if required) = <u>✓</u>	= <u>7 1/4</u>	Correction for Thickness of Deck amidships ...	
		Other corrections, scantlings, etc. to correspond to a Summer Moulded Draught of 26'-4"	<u>15.58</u>
			<u>44.04</u> <u>4.92</u> <u>+39.12</u>
			Summer Freeboard = <u>124.75</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, <u>Steel</u> , Deck: <u>10'-4 3/4"</u> <u>3169 m/m</u>			
Tropical Fresh Water Line above Centre of Disc ...	<u>13 3/4"</u> <u>349</u>	Tropical Fresh Water Freeboard ...	<u>9'-3"</u> <u>2820</u>
Fresh Water Line „ „ ...	<u>7 1/4"</u> <u>184</u>	Fresh Water „ „ ...	<u>9'-9 1/2"</u> <u>2985</u>
Tropical Line „ „ ...	<u>6 1/2"</u> <u>165</u>	Tropical „ „ ...	<u>9'-10 1/4"</u> <u>3004</u>
Winter Line below „ „ ...	<u>6 1/2"</u> <u>165</u>	Winter „ „ ...	<u>10'-11 1/4"</u> <u>3334</u>
Winter North Atlantic Line „ „ ...	<u>✓</u>	Winter North Atlantic „ „ ...	<u>✓</u>

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.

Trade of ship

Names of sister ships

"Empire Prospero"

Builder's name and yard number

Ban. Katm's Yard N. 295

Owners

Ministry of Shipping

Fee £

17

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will be charged on completion



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Foundation