

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>EMPIRE PILGRIM</b>	Official Number <b>168935</b>	Nationality and Port of Registry <b>British West Hartlepool</b>	Gross Tonnage <b>2861</b>	Date of Build <b>1942</b>	Port of Survey <b>West Hartlepool</b>
Moulded Dimensions: Length <b>310.44</b> Breadth <b>46.33</b> Depth <b>25.17'</b> <i>To centre of keel</i>					Date of Survey <b>Dec. 1941</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth tons					Surveyor's Signature <b>W.J. Craig</b>
Coefficient of fineness for use with Tables <b>.765</b>					Particulars of Classification <b>+ 100 A1</b>

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... .. <b>25.17</b>	(a) Where D is greater than Table depth (D - Table depth) R = <b>+ 10.75"</b>	Moulded Breadth (B)
Stringer plate ... .. <b>.03</b>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <b>✓</b>	Standard Round of Beam = $\frac{B \times 12}{50} =$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <b>✓</b>	If restricted by superstructures <b>✓</b>	Ship's Round of Beam =
Depth for Freeboard (D) = <b>25.20</b>		Difference
		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left( 1 - \frac{S_1}{L} \right) =$ <b>+ .02"</b>

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..	<b>31.21</b>				
„ overhang ... ..	<b>2.00</b>				
R.Q.D. enclosed ... ..					
„ overhang ... ..					
Bridge enclosed ... ..	<b>76.00</b>				
„ overhang aft ... ..	<b>4.00</b>				
„ overhang forward ... ..	<b>2.00</b>				
Fore enclosed ... ..	<b>31.23</b>				
„ overhang ... ..					
Trunk aft ... ..					
„ forward ... ..					
Tonnage opening aft ... ..					
„ „ forward ... ..					
Total ... ..	<b>146.44</b>				

Standard Height of Superstructure	<b>6.604</b>
„ „ R.Q.D.	<b>✓</b>
Deduction for complete superstructure	<b>36.03"</b>
Percentage covered $\frac{S}{L} =$	<b>47.17</b>
„ „ $\frac{S_1}{L} =$	<b>46.20</b>
„ „ $\frac{E}{L} =$	<b>46.20</b>
Percentage from Table, Line A. <i>Timber</i> <b>66.87</b>	
(corrected for absence of forecastle (if required))	<b>✓</b>
Percentage from Table, Line B.	<b>✓</b>
(corrected for absence of forecastle (if required))	<b>✓</b>
Interpolation for bridge less than 2L (if required)	<b>✓</b>
Deduction = $36.03 \times .6687 =$	<b>- 24.09"</b>

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..			1					1	
$\frac{1}{8}L$ from A.P. ... ..			4					4	
$\frac{2}{8}L$ „ ... ..			2					2	
Amidships ... ..			4					4	
$\frac{3}{8}L$ from F.P. ... ..			2					2	
$\frac{4}{8}L$ „ ... ..			4					4	
F.P. ... ..			1					1	
Total ... ..									

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$  **+ 6.27"**

If limited on account of midship superstructure.

Mean actual sheer aft =  
Mean standard sheer aft =

Mean actual sheer forward =  
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =  
L

„ „ aft of „ =

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	<b>46.01</b>
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient	<b>48.89</b>
Depth to Freeboard Deck = <b>25.20</b>	$\Delta =$ <b>6862</b>		
<i>Timber</i> Summer freeboard = <b>3.48</b>	Tons per inch immersion at summer load water line		
Moulded draught (d) = <b>21.72</b>	$T =$ <b>29.5</b>		
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>5.43 = 5\frac{1}{2}"</b>	Deduction = $\frac{\Delta}{40T}$ inches = <b>5.82</b>		
Addition for Winter North Atlantic Freeboard (if required) = <b>7\frac{1}{4}"</b>	= <b>5\frac{3}{4}"</b>		

Depth Correction	<b>10.75</b>	
Deduction for superstructures	<b>- 24.09</b>	
Sheer correction	<b>6.27</b>	
Round of Beam correction	<b>.02</b>	
Correction for Thickness of Deck amidships	<b>-</b>	
Other corrections, scantlings, etc.	<b>-</b>	
Summer Freeboard =	<b>41.84</b>	

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

Timber	Tropical Fresh Water Line above Centre of Disc	<b>23\frac{1}{2}"</b>	<b>597 mm</b>	Tropical Fresh Water Freeboard	<b>2' 6\frac{1}{2}"</b>	<b>775 mm</b>
"	Fresh Water Line	<b>18"</b>	<b>458</b>	" Fresh Water	<b>2' 0"</b>	<b>610</b>
"	Tropical Line	<b>17\frac{3}{4}"</b>	<b>451</b>	" Tropical	<b>3' 0\frac{1}{4}"</b>	<b>914</b>
"	Winter Line	<b>5"</b>	<b>127</b>	" Winter	<b>4' 1"</b>	<b>1245</b>
"	Winter North Atlantic Line	<b>7\frac{1}{4}"</b>	<b>184</b>	" Winter North Atlantic	<b>5' 1\frac{1}{4}"</b>	<b>1556</b>
"	Summer Line above	<b>12\frac{1}{4}"</b>	<b>312</b>			

30 DEC 1941

002770-002783-0369

8/1/42