

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index. No. 28721  
(For London Office only).

Ship's Name <b>EMPIRE PUMA</b> <b>"ETHAN ALLEN"</b>	Official Number <del>219742</del> <b>167590</b>	Nationality and Port of Registry <b>BRITISH.</b> <b>London</b>	Gross Tonnage <b>4447</b>	Date of Build <b>3.1920</b>	Port of Survey <b>NEW ORLEANS, LA.</b>
Moulded Dimensions: Length <b>439'-2"</b> Breadth <b>60'</b> Depth <b>36'-8"</b> <b>439.16</b>					Date of Survey <b>3RD APRIL 1940.</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>18900</b> tons					Surveyor's Signature <b>J. Wood.</b>
Coefficient of fineness for use with Tables <b>.805</b>					Particulars of Classification <b>CLASS COMP.</b>

<b>Depth for Freeboard (D).</b> Moulded depth ... <b>36.64'</b> Stringer plate ... <b>7/16</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ Depth for Freeboard (D) = <b>36.71'</b>	<b>Depth correction.</b> (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(36.71 - 29.28) \times 3.00 = +22.29'$ $7.43$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ If restricted by superstructures <input checked="" type="checkbox"/>	<b>Round of Beam correction.</b> Moulded Breadth (B) <b>60.0'</b> Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>14.4"</b> Ship's Round of Beam = <b>15"</b> Difference <b>Excess</b> <b>- .6"</b> Restricted to Correction = $\frac{\text{Diff}^*}{4} \times \left( 1 - \frac{S_1}{L} \right) =$ $\frac{.6}{4} \times 496 = -.07$
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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 ...	40.79	40.79	8.0'	✓	40.79
" overhang ...	✓				
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	134.17	134.17	7.92'	✓	134.17
" overhang aft ...					
" overhang forward					
F'cle enclosed ...	46.38	46.38	8.0'	✓	46.38
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	221.34	221.34			221.34

Standard Height of Superstructure **7.50'** ✓  
 " " R.Q.D. ✓  
 Deduction for complete superstructure **42.00'** ✓  
 Percentage covered  $\frac{S}{L} =$  **50.40** ✓  
 "  $\frac{S_1}{L} =$  **50.40** ✓  
 "  $\frac{E}{L} =$  **50.40** ✓  
 Percentage from Table, Line A. ✓  
 (corrected for absence of forecastle (if required)) ✓  
 Percentage from Table, Line B. **36.40** ✓  
 (corrected for absence of forecastle (if required)) ✓  
 Interpolation for bridge less than 2L (if required) ✓  
 Deduction =  $42.00 \times .3640 = 15.29"$  ✓

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
P. ...	53.92	1	53.92	38.5	38.5	1	38.50
L from A.P. ...	23.99	4	95.96	11.00	11.00	4	44.00
L " ...	5.93	2	11.86	0	0	2	0.00
amidships ...	-	4	-	0	0	4	0.00
L from F.P. ...	11.86	2	23.72	7.00	7.00	2	14.00
L " ...	47.98	4	191.92	39.00	39.00	4	156.00
F.P. ...	107.83	1	107.83	123.00	123.00	1	123.00
Total ...			485.21	123.00			375.50

Mean actual sheer aft = **Deficient** ✓  
 Mean standard sheer aft  
 Mean actual sheer forward = **Deficient** ✓  
 Mean standard sheer forward  
 Length of enclosed superstructure forward of amidships = **Deficient** ✓  
 L aft of " = **Deficient** ✓  
 Sheer forward ...  
 Standard Actual  
 11.86 3 35.58 7 3 21  
 47.98 3 143.94 39 3 117  
 107.83 1 107.83 123 1 123  
 187.35  
 49.80 = +30.4"

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{109.71}{18} \left( .75 - \frac{2520}{2 \times 439.16} \right) = +30.4"$   
 If limited on account of midship superstructure. ✓

Deduction for Tropical Freeboard.  
 Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **36.71**  
 Summer freeboard = **8.46**  
 Moulded draught (d) = **28.25**

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = **7.06 = 7"**  
 Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

Tons per inch immersion at summer load water line

T =

Deduction =  $\frac{\Delta}{40T}$  inches

= **8"**

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient  $\frac{.805 + .68}{1.36} = \frac{1.485}{1.36} =$

Depth Correction ... **22.29**

Deduction for superstructures ... **15.29**

Sheer correction ... **3.04**

Round of Beam correction ... **.07**

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = **101.39**

85.74  
91.42

85.74  
7.6.40

25.33 15.36 + 9.97

8.5 7.2 7.9 7.10 9.0

WINTER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~and~~ Steel Deck:

Tropical Fresh Water Line above Centre of Disc ...	15"
Fresh Water Line " " ...	8"
Tropical Line " " ...	7"
Winter Line below " " ...	7"
Winter North Atlantic Line " " ...	✓

Tropical Fresh Water Freeboard ...	8.5
Fresh Water " " ...	7.2
Tropical " " ...	7.9
Winter " " ...	7.10
Winter North Atlantic " " ...	9.0

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