

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name EMPIRE SUCCESS		Official Number 167430	Nationality and Port of Registry British London	Gross Tonnage 6009	Date of Build 1921.	Port of Survey Hull
ex 1X1A					Date of Survey March 27th to April 12th 1940	Surveyor's Signature W. S. Shields.
Moulded Dimensions: Length 450.00'		Breadth 58'27"	Depth 29.53'			
Moulded displacement at moulded draught = 85 per cent. of moulded depth 14055		tons		Particulars of Classification 100 A1. contemplated.		
Coefficient of fineness for use with Tables .747.						

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	365.00	330.40	8.60	-	330.40
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...					
" overhang aft ...					
" overhang forward					
F'cle enclosed Equiv.:	63.29	63.29	8.62	-	63.29
" overhang ...	1.71	.85			.85
Trunk aft ...					
" forward ...					
Tonnage opening aft					
" " forward					
" Total ...	430.00	394.54			394.54

STURES.

Standard Height of Superstructure	7.5'	
" " R.Q.D.	✓	
Deduction for complete superstructure	42"	
Percentage covered $\frac{S}{L} =$	95.55	
" " $\frac{S_1}{L} =$	87.68	
" " $\frac{E}{L} =$	87.68	
Percentage from Table, Line A.	84.81	
(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 =	42.00 x .8481 = -35.62"	

SHEER CORRECTION.

Station	Standard Ordnate	S M	Product	Actual Ordnate	Effective Ordnate	S M	Product
A.P. ...	55.00	1	55.00	53.15	53.15	1	53.15
$\frac{1}{2}$ L from A.P. ...	24.48	4	97.92	20.86	20.86	4	83.44
$\frac{3}{8}$ L " ...	6.05	2	12.10	-1.97	-1.97	2	-3.94
Amidships ...	-	4	-	-	-	4	-
$\frac{3}{8}$ L from F.P. ...	12.10	2	24.20	17.72	17.72	2	35.44
$\frac{1}{2}$ L " ...	48.95	4	195.80	64.96	64.96	4	259.84
F.P. ...	110.00	1	110.00	118.11	118.11	1	118.11
Total ...			495.02				546.04

$$\frac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}} = .75$$
$$\frac{\text{Mean actual sheer forward}}{\text{Mean standard sheer forward}} = \text{Excess}$$
$$\frac{\text{Length of enclosed superstructure}}{L} \text{ forward of amidships} = 0.12$$

Shear aft.			aft of			=	5L
55.00	1	55.00	53.15	1	53.15		
14.48	3	73.44	20.86	3	62.58		
6.05	3	18.15	-1.97	3	-5.91		
-	1	-	-	1	-		
		<u>146.59</u>			<u>109.82</u>		

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{51.02 \cdot (75 - \frac{8}{2L})}{18} = \frac{51.02 \cdot (75 - 4.777)}{18} = \frac{51.02 \cdot 70.223}{18} = 200.59$ If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

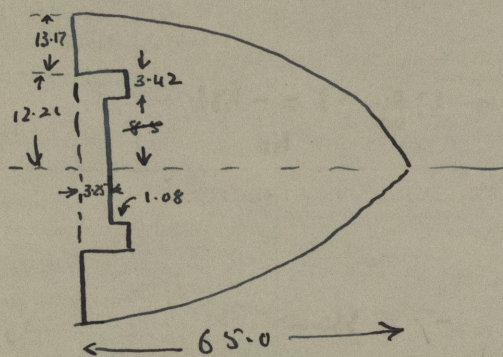
<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>29.56</u> Ft.</p> <p>Summer freeboard = <u>4.48</u></p> <p>Moulded draught (d) = <u>25.08</u></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.27 = 6'4"</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) = <u>✓</u></p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta = 14150$</p> <p>Tons per inch immersion at summer load water line</p> <p>$T = 50.44$</p> <p>Deduction = $\frac{\Delta}{40T}$ inches = <u>7.01</u></p> <p>= <u>7"</u></p>	<p>TABULAR FREEBOARD corrected for Planch Board (if required)</p> <p>Correction for coefficient $\frac{747 \pm 68}{136} = 1.427/1.36$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">+</th> <th style="text-align: center;">-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction</td> <td style="text-align: center;">-</td> <td style="text-align: center;">1.32</td> </tr> <tr> <td>Deduction for superstructures</td> <td style="text-align: center;">-</td> <td style="text-align: center;">35.62</td> </tr> <tr> <td>Sheer correction</td> <td style="text-align: center;">-</td> <td style="text-align: center;">.77</td> </tr> <tr> <td>Round of Beam correction</td> <td style="text-align: center;">.01</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td></td> <td style="text-align: center;">.01</td> <td style="text-align: center;">37.71</td> </tr> </tbody> </table> <p style="text-align: right;">Summer Freeboard = <u>53.70</u></p>		+	-	Depth Correction	-	1.32	Deduction for superstructures	-	35.62	Sheer correction	-	.77	Round of Beam correction01	-	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	-		.01	37.71
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck:

Freeboard amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:			
Tropical Fresh Water Line above Centre of Disc	13 1/4"
Fresh Water Line	"	"	7"
Tropical Line	"	"	6 1/4"
Winter Line	below	"	6 1/4"
Winter North Atlantic Line	"	"	✓
Tropical Fresh Water Freeboard	4 5/8"
Fresh Water	"	"	3 1/2"
Tropical	"	"	3 10 3/4"
Winter	"	"	3 11 1/2"
Winter North Atlantic	"	"	5 0"

Empire Success. Co. "IXIA"

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.



Fde. Recons

$$\frac{3.25 \times 12.21}{25.38} = 1.56$$

$$\frac{1.08 \times 3.42}{25.38} = \frac{.15}{1.71}$$

Total length 65.00

$$\frac{1.71}{63.29}$$

Pop Total length 365.00

$$\frac{\text{Total length (all)}}{346.00} \times 1 = \frac{19.00}{330.40}$$

Trade of ship.....

Names of sister ships.....

Builder's name and yard number.....

Owners.....

Fee £.....



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Foundation