

EMPIRE WORDSWORTH
36891

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR ~~STEAMER, SAILING SHIP, TANKER.~~)

Index. No. 37014
(For London Office only).N^o 33501

Ship's Name M.V. EMPIRE CAVALIER BRITISH CAVALIER	Official Number 169033	Nationality and Port of Registry BRITISH SUNDERLAND LONDON	Gross Tonnage 9871	Date of Build 1942	Port of Survey Sunderland
Moulded Dimensions: Length 476.125 Breadth 68.00 Depth 36.00 ✓				Date of Survey During Construction	
Moulded displacement at moulded draught = 85 per cent. of moulded depth 21467 tons ✓				Surveyor's Signature W. B. Miller	
Coefficient of fineness for use with Tables .76⁵⁸ ✓				Particulars of Classification +100 A.I. Carrying petroleum in bulk (contemplated)	

Depth for Freeboard (D). Moulded depth ... 36.00 Stringer plate82 .07 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 36.07 ✓	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(36.07 - 31.74) 3 = +12.99$ ✓ 4.33 (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ ✓ If restricted by superstructures ✓	Round of Beam correction. Moulded Breadth (B) 68.00 Standard Round of Beam = $\frac{B \times 12}{50} =$ 16.32 Ship's Round of Beam = 17 Difference .68 ✓ Restricted to ✓ Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.68}{4} \times .7003 = -.12''$ ✓
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	108.30	108.20	7.5	✓	108.20
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...					
„ overhang aft ...					
„ overhang forward ...					
F'cle enclosed ...	34.5	34.50	7.5	✓	34.50
„ overhang ...					
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...	✓	✓			✓
„ „ forward ...					
Total ...	142.85	142.70			142.70

Standard Height of Superstructure	7.5'
„ „ R.Q.D.	✓
Deduction for complete superstructure	42.00''
Percentage covered $\frac{S}{L} =$	29.97
„ „ $\frac{S_1}{L} =$	29.97 ✓
„ „ $\frac{E}{L} =$	29.97 ✓
Percentage from Table, Line A. Tanker	20.98 ✓
(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 = $42 \times .2098 =$	-8.81'' ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	57.61	1		57.61	45³/₄	45.75	1		45.75
$\frac{1}{4}$ L from A.P. ...	25.635	4		102.54	20¹/₂	20.50	4		82.00
$\frac{3}{4}$ L „ ...	6.34	2		12.68	5³/₈	5.375	2		10.75
Amidships ...	-	4		-	0	-	4		-
$\frac{3}{4}$ L from F.P. ...	12.675	2		25.35	6³/₄	6.75	2		13.50
$\frac{1}{4}$ L „ ...	51.27	4		205.08	26³/₄	26.75	4		107.00
F.P. ...	115.23	1		115.23	62.	62.00	1		62.00
Total ...			✓	518.49			✓		321.00

Mean actual sheer aft =
Mean standard sheer aft = } **Deficient.**

Mean actual sheer forward =
Mean standard sheer forward = } ✓

Length of enclosed superstructure forward of amidships =
L

„ „ aft of „ = } **NIL.**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{.2L} \right) = \frac{197.49}{18} \left(\frac{.75 - .1499}{.6001} \right) = +6.58''$
 If limited on account of midship superstructure. If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 36.07 Summer freeboard = 8.08 Moulded draught (d) = 27.99 ✓ Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7'' ✓ Addition for Winter North Atlantic Freeboard (if required) = 7.0 + 4.76 = 11³/₄'' ✓	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 19524 Tons per inch immersion at summer load water line $T =$ 65.2 Deduction = $\frac{\Delta}{40T}$ inches = 7.49 = 7¹/₂'' ✓	TABULAR FREEBOARD corrected for Flush Deck (if required) 81.73 Correction for coefficient $\frac{7584.68}{1.36} = 1438/1.36$ ✓ 86.41 ✓ <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td>12.99</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures ...</td> <td>-</td> <td>8.81</td> </tr> <tr> <td>Sheer correction ...</td> <td>6.58</td> <td>-</td> </tr> <tr> <td>Round of Beam correction ...</td> <td>-</td> <td>.12</td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td>-</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc. ...</td> <td>-</td> <td>-</td> </tr> <tr> <td>19.57</td> <td>8.93</td> <td>+10.64</td> </tr> <tr> <td colspan="3">Summer Freeboard = 97.05 ✓</td> </tr> </table>		+	-	Depth Correction ...	12.99	-	Deduction for superstructures ...	-	8.81	Sheer correction ...	6.58	-	Round of Beam correction ...	-	.12	Correction for Thickness of Deck amidships ...	-	-	Other corrections, scantlings, etc. ...	-	-	19.57	8.93	+10.64	Summer Freeboard = 97.05 ✓		
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc ...	14¹/₂'' ✓	Tropical Fresh Water Freeboard ...	6'-10¹/₂'' ✓
Fresh Water Line „ „ ...	7¹/₂'' ✓	Fresh Water „ „ ...	7' - 5¹/₂'' ✓
Tropical Line „ „ ...	7'' ✓	Tropical „ „ ...	7' - 6'' ✓
Winter Line below „ „ ...	7'' ✓	Winter „ „ ...	8' - 8'' ✓
Winter North Atlantic Line „ „ ...	11³/₄'' ✓	Winter North Atlantic „ „ ...	9' - 0³/₄'' ✓

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.

Actual displacement at 28'-3" draft = 19547 tons
Tons Per Inch = 65.2.

omit

omit

Trade of ship

Names of sister ships. *A.V. Empire Woodworth etc. S.L.O. RPT. N° 33431.*

Builder's name and yard number. *Messrs. Sir James Laing & Sons Ltd N° 743.*

Owners. *Ministry of War Transport.*

Fee £ *20*

Will be charged on completion

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Foundation