

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <i>Empire Kingway</i>	Official Number 202	Nationality and Port of Registry 32-7	Gross Tonnage 15-8 1/2	Date of Build	Port of Survey
Moulded Dimensions: Length 202 Breadth 32-7 Depth 15-8 1/2					Date of Survey
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1854 2 tons					Surveyor's Signature
Coefficient of fineness for use with Tables 738					Particulars of Classification

Depth for Freeboard (D). Moulded depth ... 15.71 Stringer plate03 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 15.74	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R = (15.74 - 13.47) 1.553 = +3.53$ (b) Where D is less than Table depth (if allowed) (Table depth - D) R = If restricted by superstructures	Round of Beam correction. Moulded Breadth (B) 32.58 Standard Round of Beam = $\frac{B \times 12}{50} = 7.82$ Ship's Round of Beam = 7.88 Difference .06 Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = .06 \times 1790 = \text{Nil}$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S _i)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	38.75	38.75	qual	-	38.75	Standard Height of Superstructure 6.00
.. overhang R.Q.D. 3.680
R.Q.D. enclosed ...	94.00	94.00	Standard	-	94.00	Deduction for complete superstructure 26.20
.. overhang ...						Percentage covered $\frac{S}{L} = 83.82$
Bridge enclosed ...	13.33	13.33	7.5	-	13.33	.. $\frac{S_1}{L} = 82.10$
.. overhang aft $\frac{E}{L} =$
.. overhang forward ...	23.25	19.74	7.0	-	19.74	Percentage from Table, Line A. 77.90
File 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 = 26.2 x 77.90 = 20.41
.. forward						
Total ...	169.33	165.84			165.84	

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	
A.P. ...	30.2	1	30.2	28.54	28.54	1	28.54	Mean actual sheer aft = deficient
1/4 L from A.P. ...	13.44	4	53.76	12.70	12.70	4	50.80	Mean actual sheer forward = deficient
3/4 L ..	3.32	2	6.64	3.14	3.14	2	6.28	Mean standard sheer forward
Amidships ...	-	4	-	-	-	4	-	Length of enclosed superstructure forward of amidships =
1/4 L from F.P. ...	6.64	2	13.28	.87	.87	2	1.74	From sheer
1/4 L ..	26.88	4	107.52	25.24	25.24	4	100.96	6.64 x 3 = 19.92
F.P. ...	60.40	1	60.40	66.99	66.99	1	66.99	26.88 x 3 = 80.64
Total ...			271.80				255.31	60.40 x 1 = 60.40
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{16.49}{18} (.75 - .4191) = +.30$								160.96
If limited on account of midship superstructure.								145.32
								160.96 = .902

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

Depth to Freeboard Deck = 20.32
Summer freeboard = 5.23
Moulded draught (d) = 15.09

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.77 = 3 3/4
Addition for Winter North Atlantic Freeboard (if required) = 5 3/4

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

T =

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

$\frac{\Delta}{4} = 3 3/4$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = 62.86

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

Tropical Fresh Water Line above Centre of Disc ...	7 1/2
Fresh Water Line ..	3 3/4
Tropical Line ..	3 3/4
Winter Line below ..	3 3/4
Winter North Atlantic Line ..	5 3/4

Tropical Fresh Water Freeboard ...	4 - 7 1/4
Fresh Water ..	4 - 11
Tropical ..	4 - 11
Winter ..	5 - 6 1/2
Winter North Atlantic ..	5 - 8 1/2

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.

24" f b g.

$$0-100 = \frac{200}{1-\frac{4}{8}} = 202.$$

$$\frac{15-8\frac{1}{2}}{15-1\frac{7}{8}} = \frac{6\frac{5}{8}}{6\frac{5}{8}} = 6.625'' = 6.63.$$

20.3 $\frac{1}{2}$

$$\frac{4-7}{15-8\frac{1}{2}} \times 85 = 13.35.$$

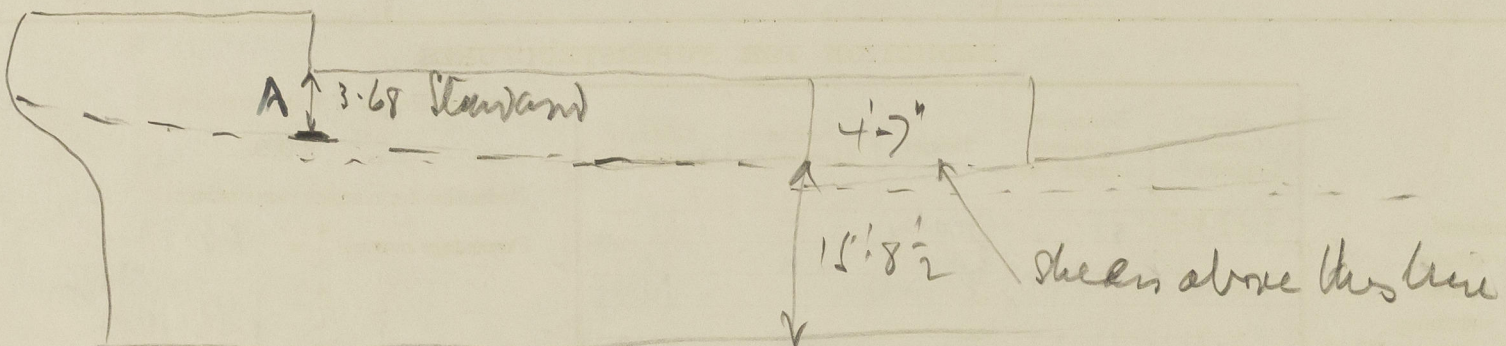
$$13.35 + .07 = 13.42.$$

$$\frac{1958}{1795} \times \frac{5}{12} = \frac{163}{12} = 13.58$$

$$\frac{1795}{1863} \times 995 = 1884$$

$$\frac{169}{1795} = 1807$$

$$\frac{1795}{1795} = 1$$



$$\text{making } A = 4.68' = 44.16''$$

$$\frac{55}{10.84} \times \frac{101}{62.25} = 28.54''$$

$$2.38' = 28.54''$$

$$\frac{15.71}{18.09} = 24.11$$

$$\frac{6.02}{18.09} = 6.02''$$

greater than standard height

Freeboard

$$\frac{23.25}{20.2 \times .902} = 18.22$$

$$\frac{3.05 \times .5}{19.74} = 1.52$$

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £



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