

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name AFRICAN QUEEN. (EX "BADGER")	Official Number 148556	Nationality and Port of Registry BRITISH	Gross Tonnage	Date of Build 1920 9 MS.	Port of Survey
Moulded Dimensions: Length 242.2' Breadth 40.00' Depth 23.67'					Date of Survey 28.7.50
Moulded displacement at moulded draught = 85 per cent. of moulded depth					Surveyor's Signature JE.
Coefficient of fineness for use with Tables .70 Estimated.					Particulars of Classification + 100 A1

DEPTH FOR FREEBOARD (D). Moulded depth ... 23.67 Stringer plate ... 4804 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \frac{3}{12} \frac{34.2}{242.2} = .04$ Depth for Freeboard (D) = 23.75	DEPTH CORRECTION. (a) Where D is greater than Table depth (D-Table depth) R = $(23.75 - 16.14) \cdot 863 = 14.18$ 7.61 (b) Where D is less than Table depth (if allowed) (Table depth-D) R = If restricted by superstructures <input checked="" type="checkbox"/>	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 40.00 Standard Round of Beam = $\frac{B \times 12}{50} = 9.60$ Ship's Round of Beam = 10 Difference + .40 Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.40^2}{4} \times .1412 = -.01$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	172.00	172.00	7.5 to 7.0	✓	172.00
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	36.00	36.00	7.0	✓	36.00
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	208.00	208.00			208.00

Standard Height of Superstructure **6.00**" " R.Q.D. ☒Deduction for complete superstructure **30.22**

Percentage covered $\frac{S}{L} =$
 $\frac{S_1}{L} =$
 $\frac{E}{L} =$
85.88

Percentage from Table, Line A. & B = **82.59**

(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 = **30.22 x .8259 = 24.96**

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	34.22	1	34.22	29.50	29.50	1	29.50
$\frac{1}{2}$ L from A.P. ...	15.23	4	60.92	8.00	8.00	4	32.00
$\frac{3}{4}$ L " ...	3.76	2	7.52	-.50	-.50	2	-1.00
Amidships ...	✓	4	✓	✓	✓	4	✓
$\frac{1}{2}$ L from F.P. ...	7.53	2	15.06	11.50	7.69	2	15.38
$\frac{3}{4}$ L " ...	30.46	4	121.84	31.75	31.11	4	124.44
F.P. ...	68.44	1	68.44	66.50	69.90	1	69.90
Total ...			308.00				270.22

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{37.78}{18} \left(.75 - \frac{.4294}{2} \right) = +.67$
 If limited on account of midship superstructure. **-32.06**

Mean actual sheer aft = **Deficient 57.03%**Mean actual sheer forward = **Excess**Length of enclosed superstructure forward of amidships = **Deficient sheers.**

" **SHEER AFT** aft of " = **SHEERS FORWARD**
 Std. $\frac{34.22}{15.23} \frac{1}{3} \frac{34.22}{45.69} \frac{1}{3} \frac{34.22}{11.28} \frac{1}{3} \frac{34.22}{91.19}$ ACT. $\frac{29.50}{8.00} \frac{1}{3} \frac{29.50}{24.00} \frac{1}{3} \frac{29.50}{-1.50} \frac{1}{3} \frac{29.50}{52.00}$
 $\frac{52.00}{91.19} = 57.03\%$

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

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **23.71**
 Summer freeboard = **5.65**
 Moulded draught (d) = **18.06**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **4.51 = 4 $\frac{1}{2}$** Addition for Winter North Atlantic Freeboard (if required) = **6 $\frac{1}{2}$**

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 3216$
 Tons per inch immersion at summer load water line
 $T = 19.34$
 Deduction = $\frac{\Delta}{40 T}$ inches
 $= 4.16$
 $= 4\frac{1}{4}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.70 + .68}{1.36} = \frac{1.38}{1.36}$

	+	-
Depth Correction ...	14.18	✓
Deduction for superstructures ...	✓	24.96
Sheer correction ...	✓	.67
Round of Beam correction ...	✓	.01
Correction for Thickness of Deck amidships ...	✓	.48
Other corrections, scantlings, etc. compensating to an extreme draught of 18'-9 $\frac{3}{4}$ "	47.16	✓
	62.01	25.45
Summer Freeboard =	67.75	

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

Tropical Fresh Water Line above Centre of Disc ... **8 $\frac{3}{4}$**
 Fresh Water Line " " ... **4 $\frac{1}{4}$**
 Tropical Line " " ... **4 $\frac{1}{2}$**
 Winter Line below " " ... **4 $\frac{1}{2}$**
 Winter North Atlantic Line " " ... **6 $\frac{1}{2}$**

Tropical Fresh Water Freeboard **4'-11"**
 Fresh Water " **5'-3 $\frac{1}{2}$ "**
 Tropical " **5'-3 $\frac{1}{4}$ "**
 Winter " **6'-0 $\frac{1}{4}$ "**
 Winter North Atlantic " **6'-2 $\frac{1}{4}$ "**

African Queen.

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.

allowed sheer forward

196.25
182.41
13.84

$$182.41 + \left(13.84 \times \frac{7.03}{25.00}\right) = 186.30$$

$$7.53 \times \frac{186.30}{182.41} = 7.69$$

$$30.46 \times " = 31.11$$

$$68.44 \times " = 69.90.$$

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £



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Foundation