

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index. No. 37952  
(For London Office only).

30 APR 1945

No 34193

Ship's Name <b>EMPIRE ALLENBY</b> <b>DRAKENSBERG CASTLE</b>	Official Number <b>180157</b>	Nationality and Port of Registry <b>British</b> <b>Sunderland</b>	Gross Tonnage <b>9904</b>	Date of Build <b>1945</b>	Port of Survey <b>Sunderland</b>
Moulded Dimensions: Length <b>465.96</b> Breadth <b>64.0</b> Depth <b>42.67</b> <i>70 cent. of rudder down.</i>				Date of Survey <b>During Construction</b>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>@ 36.27 21748</b> tons				Surveyor's Signature <b>W. E. G. Hulls</b>	
Coefficient of fineness for use with Tables <b>.704.</b>				Particulars of Classification <b>+ 100 A.1.</b> <b>with freeboard</b> <b>(contemplated)</b>	

Depth for Freeboard (D).	
Moulded depth	42.67
Stringer plate	.06
Sheathing on exposed deck	
$T \left( \frac{L-S}{L} \right) =$	
Depth for Freeboard (D) =	42.73

Depth correction.	
(a) Where D is greater than Table depth (D - Table depth) R =	$(42.73 - 31.07) \times 3 = + 34.98$ 11.66
(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)	64.0
Standard Round of Beam = $\frac{B \times 12}{50}$	15.36
Ship's Round of Beam	16
Difference	.64
Restricted to	
Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{.64^2}{4} \times \left( 1 - \frac{14.22}{465.96} \right) = .14$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed	33.96	33.96	7.5	-	33.96
„ overhang	-	-	-	-	-
R.Q.D. enclosed	-	-	-	-	-
„ overhang	-	-	-	-	-
Bridge enclosed	-	-	-	-	-
„ overhang aft	-	-	-	-	-
„ overhang forward	-	-	-	-	-
F'cle enclosed <i>see sketch</i>	28.67	28.67	7.0	7.0	26.76
„ overhang	4.33	3.64	-	7.5	3.40
Trunk aft	-	-	-	-	-
„ forward	-	-	-	-	-
Tonnage opening aft	-	-	-	-	-
„ forward	-	-	-	-	-
Total	66.96				

Standard Height of Superstructure	7.50
„ „ R.Q.D.	✓
Deduction for complete superstructure	42.00
Percentage covered $\frac{S}{L} =$	14.37
„ „ $\frac{S_1}{L} =$	14.22
„ „ $\frac{E}{L} =$	13.76
Percentage from Table, Line A.	6.88
(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 =	$42.0 \times .0688 = -2.89$

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	56.596	1		56.596	54.25	54.25	1		54.25
1/4 L from A.P.	25.19	4		100.76	10.00	10.00	4		40.00
1/2 L	6.22	2		12.44	-	-	2		-
Amidships	-	4		-	-	-	4		-
3/4 L from F.P.	12.45	2		24.90	7.625	7.62	2		15.24
1/4 L	50.37	4		201.48	40.50	40.50	4		162.00
F.P.	113.192	1		113.19	108.87	108.87	1		108.87
Total				509.37					380.36

Mean actual sheer aft = *deficient*  
Mean standard sheer aftMean actual sheer forward = *deficient*  
Mean standard sheer forwardLength of enclosed superstructure forward of amidships =  
L  
„ „ aft of „ = *nil.*

Sheer Forward.

12.45	1/2	37.35	7.62	1/2	22.86	$\frac{253.23}{301.65} = 83.95\%$
50.37	3	151.11	40.50	3	121.50	
113.19	1	113.19	108.87	1	108.87	
					253.23	
If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓						

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{129.01}{18} \left( \frac{.75 - .0718}{2 \times 465.96} \right) = .6782 = +4.86$ 

If limited on account of midship superstructure. ✓

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck	=	42.73
Summer freeboard	=	13.13
Moulded draught (d)	=	29.60

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches =  $7.40 = 7\frac{1}{2}$  "

Addition for Winter North Atlantic Freeboard (if required) = ✓

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 17.127$ 

Tons per inch immersion at summer load water line

 $T = 57.15$ Deduction =  $\frac{\Delta}{40T}$  inches $= 7.49 = 7\frac{1}{2}$  "

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{704 + .68}{1.36} = \frac{1.384}{1.36}$ 

	+	-
Depth Correction	34.98	-
Deduction for superstructures	-	2.89
Sheer correction	4.86	-
Round of Beam correction	-	.14
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc. correspond to a summer moulded draught of 29-7 1/4"	27.01	-
	66.85	3.03
Summer Freeboard =	157.50	

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

Tropical Fresh Water Line above Centre of Disc	15"
Fresh Water Line	7 1/2"
Tropical Line	7 1/2"
Winter Line below	7 1/2"
Winter North Atlantic Line	✓

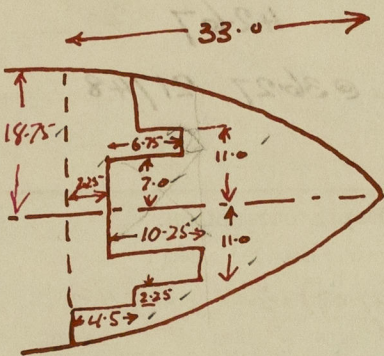
Tropical Fresh Water Freeboard	11'-10 1/2"
Fresh Water	12'-6"
Tropical	12'-6"
Winter	13'-9"
Winter North Atlantic	✓

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.

Displacement at 29'-8 1/4" draft = 17042 tons  
Tons Per Inch = 57.15.

File.

all within  
4/10.



10.25  
2.25  
12.50  
33.00  
12.50  
20.50

10.25 x 14 ÷ 37.50 = 20.50 ✓  
3.56 x 4 ÷ 37.50 = 3.83 ✓  
8.00 x 7.75 ÷ 18.75 = .37 ✓  
4.50 x 5.50 ÷ 37.50 = 3.31 ✓  
= .66 ✓  
28.67 equivalent inches

33.00  
28.67  
4.33

Trade of ship ss. Empire Paragon Sld. Rpt. No 33979; ss. Empire Dynasty Gen. Rpt. No -

Names of sister ships \_\_\_\_\_

Builder's name and yard number Messrs Joseph L. Thompson & Sons Ltd Yard No. 633.

Owners M.O.W.T.

Fee £ 20

will be charged on F.E



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Foundation