

LLOYD'S REGISTER OF SHIPPING

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

Received
 Index No.
 Govt. Copy
 Owners C11

Ship's Name 'BRITISH ENDURANCE'	Official Number	Nationality and Port of Registry DUTCH.	Gross Tonnage	Date of Build	Port of Survey
Moulded Dimensions: Length 141.489 m Breadth 18.821 m Depth 10.375 m					Date of Survey 17.3.59
Freeboard Length 141.489 m					Surveyor's Signature
Moulded displacement at moulded draught = 85 per cent. of moulded depth 18198 long tons (excluding bossing)					Particulars of Classification 7100 A1
Coefficient of fineness for use with Tables 768					

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 10.375	(a) Where D is greater than Table depth (D-Table depth) R = 8.33 (10.396 - 9.433) 30 = 241 mm	Moulded Breadth (B) 18.821
Stringer plate 21	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{18.821 \times 12}{50} = \mathbf{378}$
Wood Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 381
Depth for Freeboard (D) = 10396		Difference = 3
		Restricted to
		Correction = $\frac{\text{Diff}^c}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{3}{4} \times 5732 = \mathbf{NIL}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	31.394	31.394	2438		31.394
" overhang	1.067	.534			.534
R.Q.D. enclosed					
" overhang					
Bridge enclosed	10.973	10.973	2438		10.973
" overhang aft914	.686			.686
" overhang forward	1.067	.534			.534
F'cle enclosed Equiv... ..	16.261	16.261	2438		16.261
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	61.676	60.382			60.382

Standard Height of Superstructure **2.290** m" " R.Q.D. **✓**Deduction for complete superstructure **1067** mmPercentage covered $\frac{S}{L} = \frac{60.382}{141.489} = \mathbf{43.59\%}$

" " $\frac{S_1}{L} = \frac{60.382}{141.489} = \mathbf{42.68\%}$

Percentage from Table, Line A. = **25.77**

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. = **29.77**

(corrected for absence of forecastle (if required))

Interpolation for bridge less than .2L (if required) = **25.77 + (4 × $\frac{1.72}{28.298}$) = 27.49**Deduction = **27.49 × 1067 = 293** mm

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	1433	1	1433	965	965	1	965
1/4 L from A.P.	636	4	2544	555	555	4	2220
1/2 L "	159	2	318	152	152	2	304
Amidships	0	4	0	0	0	4	0
3/4 L from F.P.	318	2	636	311	311	2	622
1/4 L "	1273	4	5092	1273	1273	4	5092
F.P.	2865	1	2865	2870	2870	1	2870
Total			12888				12073

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{12888 - 12073}{18} = \mathbf{45.28}$ If limited on account of midship superstructure. **✓**

Mean actual sheer aft =

Mean actual sheer forward =

Length of enclosed superstructure forward of amidships = **54** m

" " aft of " = **12.193** m

If limited to maximum allowance of 1 1/2 ins. per 100ft. **✓**

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **10396** mm

Summer freeboard = **2450** mm

Moulded draught (d) = **7946** mm

Keel allowance =

Extreme draught =

Deduction for Tropical freeboard and addition for =

Winter freeboard = $\frac{d}{48}$ inches = **165 mm = 17 cms.**Addition for Winter North Atlantic Freeboard (if required) = **✓**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 16280$ (Approx)

Tons per inch immersion at summer load water line

$T = 57.70$ (Approx)

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

= **18 cms.**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient **1.448 / 1.36**

	+	-
Depth Correction	241	✓
Deduction for superstructures	293	✓
Sheer correction	24	✓
Round of Beam correction	✓	✓
Correction for Thickness of Deck amidships	✓	✓
Other corrections, scantlings, etc.	✓	✓
	265	293

Summer Freeboard = **2445** mm

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

Tropical Fresh Water Line above Centre of Disc ... **35 cms**

Fresh Water Line " " ... **18 cms**

Tropical Line " " ... **17 cms**

Winter Line below " " ... **17 cms**

Winter North Atlantic Line " " ... **✓**

Tropical Fresh Water Freeboard ... **210 cms**

Fresh Water " ... **227 cms**

Tropical " ... **228 cms**

Winter " ... **262 cms**

Winter North Atlantic " ... **✓**

24 MAR 1959