

2 SEP 1942

Index No. 36961
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

No. 18327

Ship's Name "EMPIRE BOSWELL"	Official Number 168945	Nationality and Port of Registry BRITISH WEST HARTLEPOOL.	Gross Tonnage 2875.91	Date of Build Sept 1942	Port of Survey West Hartlepool
Moulded Dimensions: Length 310'-0" Breadth 46'-4" Depth 25'-2" To CR & RUDDER STOCK. 310'-44"					Date of Survey Aug/Sept 1942
Moulded displacement at moulded draught = 85 per cent. of moulded depth 6727 tons					Surveyor's Signature W. J. Craig
Coefficient of fineness for use with Tables 765					Particulars of Classification +100A1 (CONTEMPLATED)

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth ...	25.16	(a) Where D is greater than Table depth (D-Table depth) R = (25.20-20.70) 2.388 = +10.75		Moulded Breadth (B)	46'-4"
Stringer plate ...	40	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	11.12"
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	✓			Ship's Round of Beam	11"
Depth for Freeboard (D) =	25.20	If restricted by superstructures	✓	Difference	.12"
				Restricted to	✓
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right)$	= $\frac{.12}{4} \times .538 = +.02"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	31'-2½"	31.21	7'-9"	✓	31.21	Standard Height of Superstructure 6.604
" overhang ...	2'-0"	1.00			1.00	" " R.Q.D. ✓
R.Q.D. enclosed ...						Deduction for complete superstructure 36.03
" overhang ...						Percentage covered $\frac{S}{L} =$ 47.17
Bridge enclosed ...	76'-0"	76.00	9'-0"	✓	76.00	" " $\frac{S_1}{L} =$ 46.20
" overhang aft ...	4'-0"	3.00			3.00	" " $\frac{E}{L} =$
" overhang forward ...	2'-0"	1.00			1.00	Percentage from Table, Line A. ✓
Fore enclosed ...	31'-2½"	31.23	7'-0"	✓	31.23	(corrected for absence of forecastle (if required)) ✓
" overhang ...						Percentage from Table, Line B. 32.77
Trunk aft ...						(corrected for absence of forecastle (if required)) ✓
" forward ...						Interpolation for bridge less than .2L (if required) ✓
Tonnage opening aft ...						Deduction = 36.03 × .3277 = -11.81"
" " forward ...						
Total ...	146.44	143.44			143.44	

SHEER CORRECTION.

No sheer between frame 40 and frame 117.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	41.04	1		41.04	18.0	18.0	1		18.00
½L from A.P. ...	18.265	4		73.04	1.5	1.5	4		6.00
¾L " ...	4.515	2		9.03	-	-	2		-
Amidships ...	-	4		-	-	-	4		-
¾L from F.P. ...	9.03	2		18.06	-	-	2		-
½L " ...	36.53	4		146.12	15.0	15.0	4		60.00
F.P. ...	82.09	1		82.09	66.0	66.0	1		66.00
Total ...				369.38					150.00

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{219.38}{18} (.75 - .2358) = +6.27"$

If limited on account of midship superstructure. **✓**

Mean actual sheer aft
Mean standard sheer aft = } **DEFICIENT**

Mean actual sheer forward
Mean standard sheer forward = }

Length of enclosed superstructure forward of amidships = } **DEFICIENT**

" " aft of " = } **SHEER**

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 25.20 Summer freeboard = 4.50 Moulded draught (d) = 20.70 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 5.17 - 5¼" Addition for Winter North Atlantic Freeboard (if required) = 7¼"	Deduction for Fresh Water. Displacement in salt water at summer load water line at 20-9" full draft. 6503 Tons per inch immersion at full summer load water line at 20-10½" full draft. 29.2 Deduction = $\frac{\Delta}{40 T}$ inches = 5.56 = 5½"	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.765 + .68}{1.36} = 1.445 / 1.36$ Depth Correction ... 10.75 Deduction for superstructures ... 11.81 Sheer correction ... +6.27 Round of Beam correction02 Correction for Thickness of Deck amidships ... - Other corrections, scantlings, etc. ... - 17.04 11.81 + 5.23 Summer Freeboard = 54.12"	46.01 48.89 52.8 4.9.42
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc ...	10¾"	Tropical Fresh Water Freeboard ...	4.6"
Fresh Water Line " "	5½"	Fresh Water " "	3.7¼"
Tropical Line " "	5¼"	Tropical " "	4-0½"
Winter Line below " "	5¼"	Winter " "	4-0¾"
Winter North Atlantic Line " "	7¼"	Winter North Atlantic " "	4-11¼"

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.

Grand

Trade of ship.....

Names of sister ships.....

Builder's name and yard number.....

Owners.....

Fee £.....



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Foundation