

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

23 FEB 1944

Ship's Name **"ARDELLIS"**
EMPIRE ABBEY

Official Number **169178**

Nationality and Port of Registry **British**
HONG KONG
Newcastle

Gross Tonnage **7056**
7032

Date of Build **1944**
1085 per NOT
1614
21-10-53

Port of Survey **NEWCASTLE-ON-TYNE**

Date of Survey **Building**

Surveyor's Signature **A. Allon**

Particulars of Classification **+100.2.1 with**
freeboard (contingent)

Moulded Dimensions: Length **425.44** Breadth **56.0** Depth **34.64**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **1418** tons

Coefficient of fineness for use with Tables **.485**

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 34.64	(a) Where D is greater than Table depth (D - Table depth) R = (37.72 - 28.4) 3 = +24.96	Moulded Breadth (B) 56.0
Stringer plate ... 05	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{13.44}{50} = 13.44$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 14.00
Depth for Freeboard (D) = 34.42		Difference = .56
		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.56}{4} \times .4163 = -.13$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure 7.5
„ overhang ...						„ „ R.Q.D. 42
R.Q.D. enclosed ...						Deduction for complete superstructure
„ overhang ...						Percentage covered $\frac{S}{L} = \frac{.0837}{.0837}$
Bridge enclosed ...						„ „ $\frac{S_1}{L} =$
„ overhang aft ...						„ „ $\frac{E}{L} = .0754$
„ overhang forward ...						Percentage from Table, Line A. .0377
F'cle enclosed ...	35.64	35.67	6.75	6.75/7.5	32.10	(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 = 42 * .0377 = -1.58
„ „ forward ...						
Total ...	35.64	35.64			32.10	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	52.59	1		52.59	32.25	32.25	1		32.25	Mean actual sheer aft = } deficient
$\frac{1}{4}$ L from A.P. ...	23.40	4		93.60			4			Mean standard sheer aft = }
$\frac{2}{8}$ L „ ...	5.766	2		11.54			2			Mean actual sheer forward = } deficient
Amidships ...		4					4			Mean standard sheer forward = }
$\frac{3}{8}$ L from F.P. ...	11.57	2		23.14			2			Length of enclosed superstructure forward of amidships =
$\frac{1}{4}$ L „ ...	46.821	4		187.284	6.375	6.375	4		25.5	„ „ aft of „ =
F.P. ...	105.189	1		105.189	81.00	81.00	1		81.0	Sheer parallel to base line from frame 3 to frame 129.
Total ...				473.283					138.75	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{334.538}{18} \times \frac{.75 - .5}{2 \times 42} = +13.16$

If limited on account of midship superstructure. If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient 785 + 65 1.36
Depth to Freeboard Deck = 37.72	$\Delta = 13968$ 21	Depth Correction ... 27.96
Summer freeboard = 11.04	Tons per inch immersion at summer load water line	Deduction for superstructures ... 1.58
Moulded draught (d) = 26.64	$T = 48.94$ 21	Sheer correction ... 13.16
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.64	Deduction = $\frac{\Delta}{40T}$ inches = 13964 40 * 48.94 = 7	Round of Beam correction13
Addition for Winter North Atlantic Freeboard (if required) =		Correction for Thickness of Deck amidships
		Other Corrections, scantlings, etc. 6.11
		Summer Freeboard = 133.00

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **W**ood, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc ...	13.4	Tropical Fresh Water Freeboard ...	9.11
Fresh Water Line „ „ ...	7	Fresh Water „ „ ...	10.6
Tropical Line „ „ ...	6.34	Tropical „ „ ...	10.64
Winter Line below „ „ ...	6.34	Winter „ „ ...	11.74
Winter North Atlantic Line „ „ ...		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.

Extreme draught	Extreme Δ. -	T.P.L.
26.0	13524 tons.	48.70.
24.0	14116 "	49.07
28.0	14404 "	49.47.

Bottom of keel $\frac{1}{2}$ " below moulded base line.

Trade of ship

Ocean Going Cargo vessel

Names of sister ships

Sister to same hull no. 104. "Empire Flag"

Builder's name and yard number

Sir W.G. Armstrong, Whitworth Pl. (Shipbuilders) no. 106.

Owners

Ministry of War Transport

Fee

To be charged with P.E. Report



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Foundation