

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name "EMPIRE HARLEQUIN"	Official Number 165264	Nationality and Port of Registry BRITISH Aberdeen	Gross Tonnage 250 APPROX 233.60	Date of Build 1943	Port of Survey Aberdeen
Moulded Dimensions: Length 105'-0" Breadth 24'-0" Depth 12'-6" MLD					Date of Survey Whilst building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 530 tons					Surveyor's Signature Geo. Stevenson
Coefficient of fineness for use with Tables .68 (616 actual)					Particulars of Classification *100 A.I. FOR TOWING SERVICES. (contemplated)

Depth for Freeboard (D). Moulded depth ... 12'-5 5/8" Stringer plate ... 36" Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 12.53	Depth correction. (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(12.53 - 7.00) .808 = +4.47$ 5.53 (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R = \checkmark$ If restricted by superstructures <input checked="" type="checkbox"/>	Round of Beam correction. Moulded Breadth (B) 24'-0" Standard Round of Beam = $\frac{B \times 12}{50} =$ 6.48 Ship's Round of Beam = 6 3/4" Difference .27 Restricted to <input checked="" type="checkbox"/> Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$.27/4 = .07
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...					
„ overhang aft ...					
„ overhang forward ...					
W'cle enclosed ...					
„ overhang ...					
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward ...					
Total ...					

Flash Deck

Standard Height of Superstructure _____
 „ „ R.Q.D. _____
 Deduction for complete superstructure _____
 Percentage covered $\frac{S}{L} =$ _____
 „ „ $\frac{S_1}{L} =$ _____
 „ „ $\frac{E}{L} =$ _____
 Percentage from Table, Line A. _____
 (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 = **Nil**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	20.50	1		20.50	16'-3 3/4"	38.12	20.50	-1	20.50
1/8 L from A.P. ...	9.12	4		36.48	14'-7 3/8"	17.75	9.12	-4	36.48
2/8 L „ ...	2.255	2		4.51	13'-4 5/8"	6.00	2.255	-2	4.51
Amidships ...	-	4		-	13'-1 5/8"	-	-	4	-
2/8 L from F.P. ...	4.51	2		9.02	13'-1 3/8"	-25	-25	-2	-50
1/8 L „ ...	18.24	4		72.96	13'-10 5/8"	9.00	9.00	4	36.00
F.P. ...	41.00	1		41.00	16'-6 1/2"	40.88	40.88	1	40.88
Total ...				184.47					138.87

Mean actual sheer aft = **Excess**
 Mean standard sheer aft = _____
 Mean actual sheer forward = **Deficient**
 Mean standard sheer forward = _____
 Length of enclosed superstructure forward of amidships = _____
 „ „ aft of „ = **Nil**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{45.60}{18} \times .75 = +1.90$
 If limited on account of midship superstructure. ☒ If limited to maximum allowance of 1 1/2 ins. per 100 ft. ☒

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **12.53**
 Summer freeboard = **1.54**
 Moulded draught (d) = **10.99**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **2.75 = 2 3/4**

Addition for Winter North Atlantic Freeboard (if required) = **4 3/4**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 596$

Tons per inch immersion at summer load water line

$T = 6.11$

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

= **2.44**

= **2 1/2**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient **Nil**

Depth Correction ... **4.47**
 Deduction for superstructures ... **82B.**
 Sheer correction ... **1.90**
 Round of Beam correction ... **.07**
 Correction for Thickness of Deck amidships ... **29.6.43**
 Other corrections, scantlings, etc. ... **6.37**

Summer Freeboard = **18.37**

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

Tropical Fresh Water Line above Centre of Disc ... **5 1/4"**
 Fresh Water Line „ „ ... **2 1/2"**
 Tropical Line „ „ ... **2 3/4"**
 Winter Line below „ „ ... **2 3/4"**
 Winter North Atlantic Line „ „ ... **4 3/4"**

Tropical Fresh Water Freeboard ... **1'-1 1/4"**
 Fresh Water „ „ ... **1'-4"**
 Tropical „ „ ... **1'-3 3/4"**
 Winter „ „ ... **1'-9 1/4"**
 Winter North Atlantic „ „ ... **1'-11 1/4"**

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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.

Trade of ship Tug.

Names of sister ships "Foremost 85" "Empire Minotaur" "Empire Gnome" "Empire Ned" "Empire Fred" "Empire Ann" "Empire Spitfire"

Builder's name and yard number A. Hall & Co. Ltd. Yard No 693.

Owners Ministry of War Transport.

Fee £ 4 : 0 : 0



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