

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.  
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

EMPIRE FOLK. 38085.

Ship's Name TUG. "EMPIRE SERAPH."	Official Number 169077	Nationality and Port of Registry BRITISH GOOLE.	Gross Tonnage 129	Date of Build 1942	Port of Survey NEWCASTLE-ON-TYNE
Moulded Dimensions: Length 92'-0" Breadth 20'-6" Depth 10'-6"					Date of Survey 21-8-45
Moulded displacement at moulded draught = 85 per cent. of moulded depth 260. tons T.P.I. = 3.45.					Surveyor's Signature Joseph H. Johnson.
Coefficient of fineness for use with Tables 54 (.68 lower.)					Particulars of Classification +100 A.I. For towing services

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth	10.5'	(a) Where D is greater than Table depth (D - Table depth) R = (10.53 - 6.13) x .708 = +3.11		Moulded Breadth (B)	20.5'
Stringer plate	.30"	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 4.4		Standard Round of Beam = $\frac{B \times 12}{50}$	4.92
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	NONE			Ship's Round of Beam	5"
				Difference	.08
				Restricted to	✓
Depth for Freeboard (D) =	10.53	If restricted by superstructures		Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{.08}{4} = .02$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed	✓	✓			
" overhang	✓	✓			
R.Q.D. enclosed	✓	✓			
" overhang	✓	✓			
Bridge enclosed	✓	✓			
" overhang aft	✓	✓			
" overhang forward	✓	✓			
Forecastle enclosed	✓	✓			
" overhang	✓	✓			
Trunk aft	✓	✓			
" forward	✓	✓			
Tonnage opening aft	✓	✓			
" forward	✓	✓			
Total					

Flush 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.	19.20	1		19.20	21.3	21.30	1		21.30
$\frac{1}{2}$ L from A.P.	8.54	4		34.16	11.3	11.30	4		45.20
$\frac{3}{4}$ L	2.11	2		4.22	3.2	3.20	2		6.40
Amidships	-	4		-	0	-	4		-
$\frac{3}{4}$ L from F.P.	4.22	2		8.44	4.8	4.80	2		9.60
$\frac{1}{2}$ L	17.09	4		68.36	26.8	26.80	4		107.20
F.P.	38.40	1		38.40	63.7	63.70	1		63.70
Total				172.78					253.40

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{80.62}{18} (.75) = -3.36$

If limited on account of midship superstructure. No. FLUSH DECK.

Mean actual sheer aft = Excess

Mean standard sheer aft

Mean actual sheer forward = Excess.

Mean standard sheer forward

Length of enclosed superstructure forward of amidships =

" " aft of " =

Flush deck.

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 10.53

Summer freeboard = .85

Moulded draught (d) = 9.68

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 2.42 = 2 1/2"

Addition for Winter North Atlantic Freeboard (if required) = 4 1/2"

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 296$

Tons per inch immersion at summer load water line

T = 3.6

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

8'-6" 246 3.38

9'-0" 266.5 3.47

10'-0" 309.5 3.66

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

Correction for coefficient NIL.

Depth Correction ... 3.11

Deduction for superstructures ...

Sheer correction ... 3.36

Round of Beam correction ... .02

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = 10.31

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

Tropical Fresh Water Line above Centre of Disc ... 4 1/2"

Fresh Water Line " " ... 2"

Tropical Line " " ... 2 1/2"

Winter Line below " " ... 2 1/2"

Winter North Atlantic Line " " ... 4 1/2"

Tropical Fresh Water Freeboard ... 0' 10 1/4"

Fresh Water " " ... 0' 5 3/4"

Tropical " " ... 0' 8 1/4"

Winter " " ... 0' 7 3/4"

Winter North Atlantic " " ... 1' 0 3/4"



103077

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 *For towing services.*

Names of sister ships ☒

Builder's name and yard number *R. Dunston Ld. Thorne.* ☒

Owners *Ministry of War Transport.*

Fee £



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Foundation