

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship~~, Tanker
having a C.S.S. deck with a tonnage opening

(Type of Superstructures.)

Ship's Name <u>SS. YANKEE ARROW</u>	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
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Port of Survey _____
Date of Survey 20/5/31
Name of Surveyor _____

Moulded Dimensions: Length 468.0 Breadth 62.5 Depth 32.0
Moulded displacement at moulded draught = 85 per cent. of moulded depth
Coefficient of fineness for use with Tables assumed .812 (as in "Royal Arrow")

Particulars of Classification +100A1
Shelter deck with freeboard {longitudinal
Carrying petroleum in bulk. {padding.

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	32.00	(a) Where D is greater than Table depth (D-Table depth) R = $(32.04 - 31.20) \times 3$ <u>= + 2.52</u>		Moulded Breadth (B)	62.5
Stringer plate	.04	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = _____		Standard Round of Beam = $\frac{B \times 12}{50}$	15.00
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	✓	If restricted by superstructures		Ship's Round of Beam	14.91
Depth for Freeboard (D) =	32.04			Difference	.09
				Restricted to	✓
				Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$	$= \frac{.09}{4} \times .015$ Nil

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	98.00	98.00	7.5	-	98.00
" overhang ...	9.67	4.88	"	-	4.88
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	348.83	348.83	7.5	-	348.83
" overhang aft ...	3.50	2.62	"	-	2.62
" overhang forward ...					
Forecastle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	8.00	+6.83 (= $\frac{1}{2} \text{ diff}$)			6.83
" " forward ...					
Total ...	468.00	461.16			461.16

Standard Height of Superstructure 7.5
" " R.Q.D. _____
Deduction for complete superstructure 42
Percentage covered $\frac{S}{L} = 100\%$
" " $\frac{S_1}{L} = 98.542$
" " $\frac{E}{L} = 98.542$
Percentage from Table, Line A. ✓
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. Tanker 98.202.
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required) ✓
Deduction = $42 \times 98.2 = -41.24$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	56.80	1		56.80	48.00	48.00	1		48.00
$\frac{1}{8}L$ from A.P. ...	25.28	4		101.12	20.83	20.83	4		83.32
$\frac{3}{8}L$ " ...	6.25	2		12.50	5.21	5.21	2		10.42
Amidships ...	-	4		-	-	-	4		-
$\frac{5}{8}L$ from F.P. ...	12.50	2		25.00	11.75	11.75	2		23.50
$\frac{7}{8}L$ " ...	50.56	4		202.24	47.00	47.00	4		188.00
F.P. ...	113.60	1		113.60	108.00	108.00	1		108.00
Total ...				511.26					461.24

Mean actual sheer aft = deficient
Mean standard sheer aft _____
Mean actual sheer forward = deficient
Mean standard sheer forward _____

Length of enclosed superstructure forward of amidships = ✓
" " aft of " = ✓

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{50.02}{18} \left(\frac{75-50}{2} \right) = +.70$

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

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 32.04
Summer freeboard = 4.12
Moulded draught (d) = 27.92

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.98

Addition for Winter North Atlantic Freeboard (if required) = 4.68

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

T =

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

TABULAR FREEBOARD corrected for Flush Deck (if required)
Correction for coefficient $\times \frac{.812 + .68}{1.38} =$

	+	-
Depth Correction ...	2.52	-
Deduction for superstructures ...	-	41.24
Sheer correction ...	.70	-
Round of Beam correction ...	-	-
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	3.22	41.24

Summer Freeboard = 49.42

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: 4'-1 $\frac{1}{2}$ "

Tropical Fresh Water Line above Centre of Disc ...	...
Fresh Water Line " " ...	...
Tropical Line " " ...	...
Winter Line below " " ...	...
Winter North Atlantic Line " " ...	...

Tropical Fresh Water Freeboard ...	...
Fresh Water " " ...	...
Tropical " " ...	...
Winter " " ...	...
Winter North Atlantic " " ...	...