

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

a shelter deck, with Tonnage Opening

(Type of Superstructures.)

Port of Survey

Date of Survey

27-8-31

Name of Surveyor

Ship's Name

S.S. "JAPAN ARROW"

Nationality and Port of Official Number Registry

New York

Gross Tonnage

8327

Date of Build

1920

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 .812 (See Standard Arrow)

Particulars of Classification +100 A1

Shelter deck, with freeboard  
Carrying petroleum in bulk

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) x 3 = +2.52

(b) Where D is less than Table depth (if allowed)  
(Table depth-D) R =

Moulded Breadth (B) 62.5

Standard Round of Beam =  $\frac{B \times 12}{50} = 15.00$ 

Ship's Round of Beam = 15.50

Difference .50

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.50}{4} \times .015 = \text{NIL}$ 

Depth for Freeboard (D) = 32.04

If restricted by superstructures

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	98.00	98.00	7.5	-	98.00
" overhang ...	10.00	5.00			5.00
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	348.33	348.33	7.5	-	348.33
" overhang aft ...	3.67	2.75			2.75
" overhang forward ...					
Fore enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	8.00	6.96	7.5		6.96
" " forward ...					
Total ...	468.00	461.04			461.04

Standard Height of Superstructure 7.5

" " R.Q.D. -

Deduction for complete superstructure 42.00

Percentage covered  $\frac{S}{L} = 100\%$ " "  $\frac{S_1}{L} = 98.5\%$ " "  $\frac{E}{L} = 98.5\%$ 

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

98.15%

Percentage from Table, Line B.

(corrected for absence of forecastle (if required))

Interpolation for bridge less than .2L (if required)

Deduction = 42.00 x .9815 = -41.22

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
...	56.80	1	56.80	48.00	48.00	1	48.00
from A.P. ...	25.27	4	101.08	21.33	21.33	4	85.32
" ...	6.25	2	12.50	5.33	5.33	2	10.66
ships ...	-	4	-	-	-	4	-
from F.P. ...	12.50	2	25.00	11.85	11.85	2	23.70
" ...	50.54	4	202.16	47.40	47.40	4	189.60
...	113.60	1	113.60	108.00	108.00	1	108.00
Total ...			511.14				465.28

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{45.86}{18} \times .25 = +.64$ 

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

Correction for Tropical Freeboard.

Correction for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = Ft.

Summer freeboard =

Moulded draught (d) =

Correction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches =

Correction for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

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

 $\frac{.812 + .68}{1.36} = \frac{1.492}{1.36}$ 

Depth Correction ... 2.52

Deduction for superstructures ... 41.22

Sheer correction ... .64

Round of Beam correction ...

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ...

3.16 41.22 -38.06

Summer Freeboard = 49.38

SUM

Approximate Estimate of Summer Freeboard } = 4' - 1½"

Summer Freeboard assumed by American Bureau } = 4' - 1½"

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