

Wreck SEP 10

Cloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having a poop, bridge and forecastle

Port of Survey Bristol

Date of Survey 20/23 Feb 1933

Name of Surveyor John W. Gwynne

Particulars of Classification +100M

CHUNG HSING (Type of Superstructures.)

Ship's Name MOVIKEN

Nationality and Port of Registry Chinese Shanghai

Official Number 2494

Gross Tonnage 1922-2

Date of Build 1922-2

Moulded Dimensions: Length 299.0 Breadth 43.5 Depth 24.46

Moulded displacement at moulded draught = 85 per cent. of moulded depth 6065 tons

Coefficient of fineness for use with Tables .785

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	24.46	(a) Where D is greater than Table depth		Moulded Breadth (B)	43.5
Stringer plate	.04	(D - Table depth) R =	(24.50 - 19.93) x 2.300 = +10.51	Standard Round of Beam = $\frac{B \times 12}{50}$	10.44
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed)		Ship's Round of Beam	10.75
T $\left(\frac{L-S}{L} \right) =$		(Table depth - D) R =		Difference	.31
Depth for Freeboard (D) =	24.50	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{.31}{4} \times .5214 = -.04$

DEDUCTION FOR SUPERSTRUCTURES.

Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	28.16	28.16	7.5	✓	28.16
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	80.35	80.35	7.0	✓	80.35
" overhang aft73	.55			.55
" overhang forward ...	2.17	1.08			1.08
Fore enclosed ...	32.85	32.85	7.0		32.85
" overhang25	.12			.12
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	144.51	143.11			143.11

Standard Height of Superstructure 6.49

" " R.Q.D. ✓

Deduction for complete superstructure 35.27

Percentage covered $\frac{S}{L} =$ 48.33

" " $\frac{S_1}{L} =$ 47.86

" " $\frac{E}{L} =$ 47.86

Percentage from Table, Line A. ✓

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 34.18

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 35.27 x 34.18 = -12.05

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	39.90	1		39.90	24.0	24.0	1		24.0	
$\frac{1}{2}$ L from A.P. ...	17.75	4		71.00	1.0	1.0	4		4.0	
$\frac{3}{8}$ L " ...	4.39	2		8.78	-	-	2		-	
Amidships ...	-	4		-	-	-	4		-	
$\frac{3}{8}$ L from F.P. ...	8.78	2		17.56	-	-	2		-	
$\frac{1}{2}$ L " ...	35.51	4		142.04	6.75	6.75	4		27.0	
F.P. ...	79.80	1		79.80	72.0	72.0	1		72.0	
Total ...				359.08					127.0	

Mean actual sheer aft = Deficient

Mean standard sheer aft = Deficient

Mean actual sheer forward = Deficient

Mean standard sheer forward = Deficient

Length of enclosed superstructure forward of amidships = Deficient

" " aft of " = Deficient

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{232.08}{18} \left(.75 - \frac{24.16}{50.84} \right) = +6.55$

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 $\frac{785 + .68}{1.36} = \frac{1.465}{1.36}$	
Depth to Freeboard Deck =	24.50	$\Delta =$	6010	Depth Correction ...	10.51
Summer freeboard =	4.29	Tons per inch immersion at summer load water line		Deduction for superstructures ...	12.05
Moulded draught (d) =	20.21	T =	26.5	Sheer correction ...	6.55
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =	5.05 = 5"	Deduction = $\frac{\Delta}{40T}$ inches	5.67	Round of Beam correction04
Addition for Winter North Atlantic Freeboard (if required) =	7"	= $5\frac{3}{4}$ "		Correction for Thickness of Deck amidships ...	-
				Other corrections, scantlings, etc. ...	-
				17.06	12.09
				Summer Freeboard = 51.46	

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

Tropical Fresh Water Line above Centre of Disc ...	10 $\frac{3}{4}$ " = 273	Tropical Fresh Water Freeboard ...	3'-4 $\frac{3}{4}$ " = 1035
Fresh Water Line " " ...	5 $\frac{3}{4}$ " = 146	" " " " ...	3'-9 $\frac{3}{4}$ " = 1162
Tropical Line " " ...	5" = 127	" " " " ...	3'-10 $\frac{1}{2}$ " = 1181
Winter Line below " " ...	5" = 127	" " " " ...	4'-8 $\frac{1}{2}$ " = 1435
Winter North Atlantic Line " " ...	7" = 178	" " " " ...	4'-10 $\frac{1}{2}$ " = 1486