

Wreck's Register of Shipping. SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having a poop, bridge and forecastle

CHUNG HSING (Type of Superstructures.)

Ship's Name: **ec. "MOVIKEN"**
Nationality and Port of Registry: **Norwegian Chinese Bergen Shanghai**
Official Number: **2494**
Gross Tonnage: **2494**
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**

Port of Survey Bristol
Date of Survey 20/23 Feb 1933
Name of Surveyor John W. Gwynne
Particulars of Classification +100M

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	24.46	(a) Where D is greater than Table depth (D - Table depth) R = (24.50 - 19.93) x 2.300 = +10.51		Moulded Breadth (B)	43.5
Stringer plate	.04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	10.44
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	✓			Ship's Round of Beam	10.75
Depth for Freeboard (D) =	24.50	If restricted by superstructures		Difference	.31
				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 _i)	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 aft	.73	.55			.55
„ overhang forward	2.17	1.08			1.08
F'cle enclosed	32.85	32.85	7.0		32.85
„ overhang	.25	.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 = $35.27 \times 34.18 = -12.05$

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
1/4 L from A.P.	17.75	4		71.00	1.0	1.0	4		4.0
1/2 L	4.39	2		8.78	-	-	2		-
Amidships	-	4		-	-	-	4		-
3/4 L from F.P.	8.78	2		17.56	-	-	2		-
1/4 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 =
Mean actual sheer forward = Deficient
Mean standard sheer forward =
Length of enclosed superstructure forward of amidships = } Deficient
aft of = }

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{232.08}{18} \left(\frac{.75 - .2416}{.5084} \right) = +6.55$

If limited on account of midship superstructure.

If limited to maximum allowance of 1 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 = 5 3/4	Round of Beam correction04
Addition for Winter North Atlantic Freeboard (if required) = 7		Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ...
		17.06 12.09 + 4.97
		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	4'-3 1/2" = 1308 1/2	Tropical Fresh Water Freeboard	3'-4 1/4" = 1035 1/4
Fresh Water Line	10 1/4" = 273 1/4	Fresh Water	3'-9 3/4" = 1162 1/4
Tropical Line	5 1/4" = 146	Tropical	3'-10 1/2" = 1181 1/2
Winter Line below	5" = 127	Winter	4'-8 1/2" = 1435 1/2
Winter North Atlantic Line	7" = 178	Winter North Atlantic	4'-10 1/2" = 1486 1/2

OCT 1933

MARKING FORM

6 MAR 1935 RECEIVED

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