

PRELIMINARY
CLOSED SHELTER DK CONDITION.

Rpt. C.11 (Comp.)

For LONDON OFFICE ONLY

LLOYD'S REGISTER OF SHIPPING
SURVEYS FOR FREEBOARD
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

Received
Index No.
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Owners C11

Ship's Name 3902 HITACHI S.B.2 ENG CO. LTD DESIGN NO 3289-2	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey LONDON OFFICE
Moulded Dimensions: Length 140.260M Breadth 19.400M Depth 12.217M Freeboard Length 140.260M to 4 OF RS Moulded displacement at moulded draught = 85 per cent. of moulded depth 20350 Metric tons (excluding bossing) 10.384 Coefficient of fineness for use with Tables .703					Date of Survey 22-4-60 Surveyor's Signature John H.C. Robertson Particulars of Classification

DEPTH FOR FREEBOARD (D). M	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... 12.217	(a) Where D is greater than Table depth (D - Table depth) R = 8.33(12.297-9.35)30 = +736 m/m.	Moulded Breadth (B) 19.400M Standard Round of Beam = $\frac{B \times 12}{50} = \frac{19.400 \times 12}{50} = \frac{465.6}{50} = 9.312$ Ship's Round of Beam = 400 m/m Difference 12
Stringer plate 24 m/m024	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 2.946	Restricted to
Wood Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = 65 \left(\frac{140.26-19.365}{140.26} \right) = 56$	If restricted by superstructures	Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{12^2}{4} \times \left(1 - \frac{1.1381}{19.4} \right) = \frac{36}{4} \times 0.8619 = 9 \times 0.8619 = 7.7571$
Depth for Freeboard (D) = 12.297		

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	8.800	8.800	2.40		8.800	Standard Height of Superstructure 2.290M
" overhang						" " R.Q.D. ✓
R.Q.D. enclosed						Deduction for complete superstructure 1067 m/m
" overhang						Percentage covered $\frac{S}{L} =$
Bridge enclosed						" " $\frac{S_1}{L} =$ } 13.81
" overhang aft						" " $\frac{E}{L} =$
" overhang forward						Percentage from Table, Line A. 6.91
Fore enclosed	10.565	10.565	2.40		10.565	(corrected for absence of forecastle (if required))
" overhang						Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = 1067 x .0691 = 74 m/m
" " forward						
Total	19365	19365			19365	

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P.	1422	1	1422	1200	1200	1	1200
$\frac{1}{2}$ L from A.P.	632	4	2528	516	516	4	2064
$\frac{2}{3}$ L	158	2	316	129	129	2	258
Amidships	0	4	0	0	0	4	0
$\frac{2}{3}$ L from F.P.	316	2	632	267	267	2	534
$\frac{1}{2}$ L	1264	4	5056	1068	1068	4	4272
F.P.	2845	1	2845	2408	2408	1	2408
Total			12799				10736

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{2063}{18} \left(.75 - \frac{.0691}{2} \right) = \frac{2063}{18} \times .6809 = +78 \text{ m/m}$
If limited on account of midship superstructure.

Mean actual sheer aft = **DEF**
Mean standard sheer aft = **DEF**
Mean actual sheer forward = **DEF**
Mean standard sheer forward = **DEF**
Length of enclosed superstructure forward of amidships = **NIL**
" " aft of " = **NIL**

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. WOOD Depth to Freeboard Deck = 12.300 Summer freeboard = 3.606 Moulded draught (d) = 8.700 Keel allowance = 0.000 Extreme draught = 0.000 Deduction for Tropical freeboard and addition for = 0.000 Winter freeboard = $\frac{d}{48} \text{ inches} = \frac{8.700}{48} = 0.18125 \text{ m/m}$ Addition for Winter North Atlantic Freeboard (if required) = 0.000	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 16.650$ Tons per inch immersion at summer load water line $T = 22.50$ Deduction = $\frac{\Delta}{40 T} \text{ inches} = \frac{16.650}{40 \times 22.50} = 0.185 \text{ m/m}$	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{0.703 + 0.68}{1.36} = \frac{1.383}{1.36} = 1.0169$ Depth Correction ... 736 Deduction for superstructures ... 74 Sheer correction ... 78 Round of Beam correction WOOD ... 3 Correction for Thickness of Deck amidships ... 9 Other corrections, scantlings, etc. ... 529 Summer Freeboard = 3.606
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel Deck :-

Tropical Fresh Water Line above Centre of Disc	366	Tropical Fresh Water Freeboard	3606 m/m
Fresh Water Line	185	Fresh Water	3240 m/m
Tropical Line	181 m/m	Tropical	3421 m/m
Winter Line below	181 m/m	Winter	3425 m/m
Winter North Atlantic Line	181 m/m	Winter North Atlantic	3787 m/m