

PRELIMINARY
OPEN 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 HITACHI S.B. ENG. CO. LTD DESIGN NO. 3289-2	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey LONDON DOCK
Moulded Dimensions: Length 140.00m Breadth 19.400m Depth 9.517m Freeboard Length 140.006m LR 22.4.60 Moulded displacement at moulded draught = 85 per cent. of moulded depth 15,125 Metric tons (excluding bossing) Coefficient of fineness for use with Tables 0.68 (ACTUAL .672) 8.089					Date of Survey 22.4.60 Surveyor's Signature John M. C. Robertson Particulars of Classification

DEPTH FOR FREEBOARD (D). Moulded depth ... 9.517 Stringer plate 100mm010 Wood Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 9.527	DEPTH CORRECTION. (a) Where D is greater than Table depth $\lambda(D - \text{Table depth}) R =$ 833(9.527 - 9.30)30 = 48 mm (b) Where D is less than Table depth (if allowed) (Table depth - D) R = If restricted by superstructures	ROUND OF BEAM CORRECTION. Moulded Breadth (B) 19.400m Standard Round of Beam = $\frac{B \times 12}{50} =$ 388 Ship's Round of Beam = 150 mm Difference 238 mm Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{238^2}{4} \times \left(1 - \frac{150}{19400} \right) =$ 238(005) = NIL
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	8.800	8.800	2.70		8.800
" overhang380	.180			.190
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	129.600	129.600	2.70		129.600
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	1.220	.705			.705
" forward ...					
Total ...	140.000	139.295			139.295

Standard Height of Superstructure **2.290**
 " " R.Q.D. **✓**
 Deduction for complete superstructure **1067**
 Percentage covered $\frac{S}{L} = 100.00$
 $\frac{S_1}{L} =$
 $\frac{E}{L} =$ } **99.50**
 Percentage from Table, Line A & B **99.38**
 (corrected for absence of forecastle (if required))
 Percentage from Table, Line B
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than 2L (if required)
 Deduction = **1067 x .9938 = 1060** **no/mm**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	1420	1	1420	1200	1610	1420	1	1420	
1/4 L from A.P. ...	631	4	2524		716	631	4	2524	
1/2 L " ...	158	2	316		177	158	2	316	
Amidships ...	0	4	0	0	0	0	4	0	
3/4 L from F.P. ...	316	2	632		310	316	2	620	
1/4 L " ...	1262	4	5048		1254	1262	4	5016	
F.P. ...	2840	1	2840	2408	2818	2840	1	2818	
Total ...			12780	+410				12714	

Mean actual sheer aft = **EXCESS**
 Mean standard sheer aft =
 Mean actual sheer forward = **DEFICIENT**
 Mean standard sheer forward =
 Length of enclosed superstructure forward of amidships =
 " " aft of " = } **CSS/TO**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - \frac{S}{2L}}{.75} \right) = \frac{66}{18} \times .25 = + 1 \text{ mm}$
 If limited on account of midship superstructure. If limited to maximum allowance of 1 1/2 ins. per 100ft.

Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = 9.527 Summer freeboard = 1.274 Moulded draught (d) = 8.253 Keel allowance = Extreme draught = Deduction for Tropical freeboard and addition for = Winter freeboard = 172 Addition for Winter North Atlantic Freeboard (if required) =	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ 15,600 Tons per inch immersion at summer load water line $T =$ 22.15 Deduction = $\frac{\Delta}{40 T}$ inches = 176 mm	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient NIL Depth Correction ... 48 Deduction for superstructures ... 1060 Sheer correction ... Round of Beam correction ... Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... Summer Freeboard = 1274
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc ...	348 mm	Tropical Fresh Water Freeboard ...	1274 mm
Fresh Water Line " " ...	176 mm	Fresh Water " " ...	1098 mm
Tropical Line " " ...	172 mm	Tropical " " ...	1102 mm
Winter Line below " " ...	172 mm	Winter " " ...	1446 mm
Winter North Atlantic Line " " ...	✓	Winter North Atlantic " " ...	✓