

# LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

## SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

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Ship's Name <b>SADAO</b>	Official Number	Nationality and Port of Registry <b>SINGAPORE</b>	Gross Tonnage <b>522</b>	Date of Build	Port of Survey
Moulded Dimensions: Length <b>140'-4 3/8"</b> Breadth <b>27'-0"</b> Depth <b>18'-0"</b> <del>2 KNOCKED STAKE</del>					Date of Survey <b>4.8.53</b>
Freeboard Length					Surveyor's Signature
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) <b>1323</b> tons					Particulars of Classification <b>AS + Service in E.I. Archipelago</b>
Coefficient of fineness for use with Tables <b>.798</b>					

DEPTH FOR FREEBOARD (D).				
Moulded depth	...	...	...	<b>18.00</b>
Stringer plate	...	<b>2.5</b>	...	<b>.02</b>
Wood Sheathing on exposed deck				
$T \left( \frac{L-S}{L} \right) =$				
Depth for Freeboard (D) =				<b>18.02</b>

DEPTH CORRECTION.	
(a) Where D is greater than Table depth (D-Table depth) R =	$(18.02 - 9.36) 1.080 = + 9.35"$
(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	$8.66$
If restricted by superstructures	

ROUND OF BEAM CORRECTION.	
Moulded Breadth (B)	<b>27.00</b>
Standard Round of Beam = $\frac{B \times 12}{50}$	<b>6.48</b>
Ship's Round of Beam <i>equiv.</i>	<b>7.29</b>
Difference	<b>.81</b>
Restricted to	
Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$= \frac{.81^2}{4} \times .8842 = -.18$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed <b>OPEN</b>	<b>32.5</b>	<b>16.25</b>	<b>7.00</b>	<b>-</b>	<b>16.25</b>
" overhang aft					
" overhang forward					
F'cle enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	<b>32.5</b>	<b>16.25</b>			<b>16.25</b>

Standard Height of Superstructure	<b>6.00</b>
" " R.Q.D.	
Deduction for complete superstructure	<b>20.04</b>
Percentage covered $\frac{S}{L} =$	<b>23.16</b>
" " $\frac{S_1}{L} =$	<b>11.58</b>
" " $\frac{E}{L} =$	
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	<b>0.79</b>
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	<b>2.31</b>
Interpolation for bridge less than .2L (if required)	<b>1.67</b>
Deduction = $20.04 \times .0167$	<b>= -.33"</b>

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	<b>24.04</b>	1	<b>24.04</b>			1	
1/8 L from A.P.	<b>10.70</b>	4	<b>42.80</b>			4	
2/8 L "	<b>2.64</b>	2	<b>5.28</b>			2	
Amidships	<b>0</b>	4	<b>0</b>	<b>0</b>	<b>0</b>	4	<b>0</b>
2/8 L from F.P.	<b>5.29</b>	2	<b>10.58</b>			2	
1/8 L "	<b>21.39</b>	4	<b>85.56</b>			4	
F.P.	<b>48.07</b>	1	<b>48.07</b>			1	
Total			<b>216.36</b>				

Mean actual sheer aft = **NIL**  
 Mean standard sheer aft =

Mean actual sheer forward = **NIL**  
 Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

" " aft of " =

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{216.36}{18} \left( \frac{.75 - .1158}{.6342} \right) = + 7.62"$

If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck	=	<b>13.02</b>
Summer freeboard	=	<b>8.04</b>
Moulded draught (d)	=	<b>9.98</b>
Keel allowance	=	
Extreme draught	=	
Deduction for Tropical freeboard and addition for	=	
Winter freeboard = $\frac{d}{4}$ inches =		
Addition for Winter North Atlantic Freeboard (if required)=		

## Deduction for Fresh Water.

Displacement in salt water at summer load water line	
$\Delta =$	
Tons per inch immersion at summer load water line	
T =	
Deduction = $\frac{\Delta}{40 T}$ inches	
=	
$\frac{d}{4} = 2 1/2"$	

## TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient  $\frac{.778 + .68}{1.36} = \frac{1.458}{1.36}$

	+	-
Depth Correction	<b>9.35</b>	<b>✓</b>
Deduction for superstructures	<b>✓</b>	<b>.33</b>
Sheer correction	<b>4.62</b>	<b>✓</b>
Round of Beam correction	<b>✓</b>	<b>.18</b>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc. TO...	<b>64.55</b>	
CORRESPOND. WITH A. SUMMER. EXTREME. DRAUGHT. OF 10'-0 1/2"	<b>81.52</b>	<b>.51</b>
Summer Freeboard =	<b>96.50</b>	

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

Tropical Fresh Water Line above Centre of Disc	<b>2 1/2"</b>	Tropical Fresh Water Freeboard	<b>2 1/2"</b>
Fresh Water Line	<b>2 1/2"</b>	Fresh Water	<b>2 1/2"</b>
Tropical Line	<b>NIL</b>	Tropical	<b>8'-0 1/2"</b>
Winter Line below	<b>NOT ASSIGNED</b>	Winter	<b>NOT ASSIGNED</b>
Winter North Atlantic Line	<b>NOT ASSIGNED</b>	Winter North Atlantic	<b>NOT ASSIGNED</b>