

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

12 MAR 1952

Gro Rpt No 651

Ship's Name "ZAMRUD"	Official Number ✓	Nationality and Port of Registry Indonesian Djakarta	Gross Tonnage ✓	Date of Build 1952	Port of Survey Waterhuizen
Moulded Dimensions: Length 48.90^m Breadth 9.15^m Depth 2.85^m					Date of Survey Febr/March '52
Moulded displacement at moulded draught = 85 per cent. of moulded depth 728^{m³}					Surveyor's Signature <i>W. J. J. J.</i>
Coefficient of fineness for use with Tables .68 (actual .672)					Particulars of Classification * 100 A1

DEPTH FOR FREEBOARD (D).

Moulded depth ... **2.850**

Stringer plate **shelterdeck 8 mm**
maindeck 6 mm ... **7**

Sheathing on exposed deck **50 mm**

$T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) = **2.857**

DEPTH CORRECTION.

(a) Where D is greater than Table depth
(D-Table depth) R = ✓

(b) Where D is less than Table depth (if allowed)
(Table depth-D) R = **8.33(3.260-2.857)12.348 = -41 mm**
.403

If restricted by superstructures ✓

ROUND OF BEAM CORRECTION.

Moulded Breadth (B) at maindeck **9150 mm**

Standard Round of Beam = $\frac{B}{12} = 183$

Ship's Round of Beam **sh. deck 210 mm** = **NIL**

Difference **183**

Restricted to

Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{183}{4} \times 0.0848 = +4 \text{ mm}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	12200	12.200			12.200
„ overhang ...					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed ...	18150	18.150			18.150
„ overhang aft ...	300	.225			.225
„ overhang forward ...	850	.425			.425
F'cle enclosed ...	3700	3.700			3.700
„ overhang ...	11000	5.899			5.899
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...	1350	4.151			4.151
„ „ forward ...	1350				
Total ...	48.900	44.750			44.750

Standard Height of Superstructure **1830 mm**

„ „ R.Q.D. ✓

Deduction for complete superstructure **560 mm**

Percentage covered $\frac{S}{L} = 100$

„ „ $\frac{S_1}{L} = 91.52$

„ „ $\frac{E}{L} =$

Percentage from Table, Line A. + B **89.57**

(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 = **560 × .8957 = -502 mm**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	661	1		661	610	1100	1		661
$\frac{1}{8}L$ from A.P. ...	294	4		1176	275	490	4		1176
$\frac{3}{8}L$ „ ...	73	2		146	71	121	2		146
Amidships ...	✓	4		✓	0	✓	4		✓
$\frac{5}{8}L$ from F.P. ...	147	2		294	151	122	2		244
$\frac{7}{8}L$ „ ...	588	4		2352	482	492	4		1968
F.P. ...	1323	1		1323	936	1106	1		1106
Total ...				5952	+170				5301

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{651}{18} \times .25 = +9 \text{ mm}$

If limited on account of midship superstructure. ✓

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 „ = **SHEERS DEFICIENT.**

Deduction for Tropical Freeboard.**Addition for Winter and Winter North Atlantic Freeboard.**Depth to Freeboard Deck = **2.857**Summer freeboard = **50 mm**Moulded draught (d) = **2.807**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48} \text{ inches} = 58 \text{ mm} = 6 \text{ cm}$

Addition for Winter North Atlantic Freeboard (if

required) = **58 + 51 = 109 mm = 11 cm****Deduction for Fresh Water.**

Displacement in salt water at summer load water line

 $\Delta = 861$

Tons per inch immersion at summer load water line

T = **3.51**Deduction = $\frac{\Delta}{40 T} \text{ inches}$ = **6 cm****TABULAR FREEBOARD corrected for Flush Deck (if required)**

Correction for coefficient

NIL.

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

	+	-
Depth Correction	✓	41
Deduction for superstructures	✓	502
Sheer correction	9	✓
Round of Beam correction	4	✓
Correction for Thickness of Deck amidships	✓	✓
Other corrections, scantlings, etc.	✓	✓
	13	543

Summer Freeboard = **-99****SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-**Tropical Fresh Water Line above Centre of Disc ... **6 cm**Fresh Water Line „ „ ... **6 cm**Tropical Line „ „ ... **NIL**Winter Line below „ „ ... **6 cm**Winter North Atlantic Line „ „ ... **11 cm**

Tropical Fresh Water Freeboard

Fresh Water „

Tropical „

Winter „

Winter North Atlantic „

5 cm LIMITED.**MINUS 1. „****MINUS 1. „****5 cm LIMITED****11 „****16 „**

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

SHEERS

ACTUAL TWIN DECK HEIGHT = 2000 (includes wood deck) ✓
STANDARD " " " = 1830 ✓
EXCESS = 170 m/m. ✓

ADD ACTUAL SHEER AT POOP FRONT = $\frac{106}{276}$ ✓

Virtual shear at AP = $276 \times \frac{24.45^2}{12.25^2}$ ✓
= 1100 m/m. ✓

allowable shear :-

actual shear at AP = 610 ✓
excess twin deck height = 120 ✓
HEIGHT of RAISED POOP AT AP. = $\frac{766}{1496}$ m/m ✓
add Wood deck = $\frac{50}{1546}$ m/m! ✓

STANDARD SHEER

147	3	441
588	3	1764
1323	1	1323
		<u>3528</u>

ACTUAL SHEER

122	3	366
492	3	1476
1106	1	1106
		<u>2948</u>

$\frac{2948}{3528} = 83.56\%$ ✓

FORECASTLE

.1L = 4.89 ✓
enclosed length = 3.70 ✓

$\sqrt{1.19} \times .8356 = 0.994$ m/m for column S₁

(overhang aft of .1L) $\frac{11.000}{1.190}$ ✓
less $\frac{1.190}{9.810} \times .50 = \frac{4.905}{5.899}$ ✓ for column S₁

TONNAGE OPENING

$\frac{B-b}{B} = \frac{8.950 - 3.60}{8.950}$

= $\frac{5.350}{8.950}$

= .598. Therefore use .5

Trade of ship

Ocean Trade

Names of sister ships

Builder's name and yard number

N.V. Scheepswerven Gebrs. van Diepen

3

918

Owners

Kapalan Djawatan Pelajaran

Fee

142.00



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