

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

Received
 Index No.
 Govt. Copy
 Owners Cl.

Ship's Name NAIKO	Official Number	Nationality and Port of Registry INDONESIAN DJAKARTA	Gross Tonnage	Date of Build 1953	Port of Survey TRIESTE
Moulded Dimensions: Length 49.00 M Breadth 9.404 M Depth 2.96 M					Date of Survey DURING CONSTRUCTION
Freeboard Length					Surveyor's Signature
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing) 800.8 M³					Particulars of Classification 100 AT
Coefficient of fineness for use with Tables .691					CONTEN^D

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth 2.960	(a) Where D is greater than Table depth (D-Table depth) R =	Moulded Breadth (B) 9.404
Stringer plate007	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{112.848}{50} = 2.25696$
Wood Sheathing on exposed deck	8.33 (3.267 - 2.967) 12.374 = 31 mm.	Ship's Round of Beam = 2.01
$T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures ✓	Difference 13
Depth for Freeboard (D) = 2.967		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{13}{4} \times .0817 = N/L$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	12100	12100	2100	—	12100	Standard Height of Superstructure 1.83 M.
" overhang						" " R.Q.D. ✓
R.Q.D. enclosed						Deduction for complete superstructure 561 mm.
" overhang						Percentage covered $\frac{S}{L} = 100$
Bridge enclosed	18150	18150	2100	✓	18150	" " $\frac{S_1}{L} =$
" overhang aft	450	338	"	✓	338	" " $\frac{E}{L} =$
" overhang forward ...	1000	500	"	✓	500	Percentage from Table, Line A+B 89.95
F'cle enclosed	3900	3900	"	✓	3900	(corrected for absence of forecastle (if required))
" overhang	11000	6000	"	✓	6000	Percentage from Table, Line B. ✓
Trunk aft						(corrected for absence of forecastle (if required)) ✓
" forward		$\frac{1}{2} \text{ DIFF}^e$				Interpolation for bridge less than .2L (if required) ✓
Tonnage opening aft ...	1200	656	"	✓	656	Deduction = 561 x .8995 = -505 mm.
" " forward ...	1200	3350	"	✓	3350	
Total	49000	44994			44994	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	662	1	✓	662	480	1405	1	✓	1405	Mean actual sheer aft =
$\frac{1}{8}L$ from A.P. ...	294	4	✓	1176	180	625	4	✓	2500	Mean standard sheer aft =
$\frac{3}{8}L$ " ...	74	2	✓	148	30	155	2	✓	310	Mean actual sheer forward =
Amidships	0	4	✓	0	0	0	4	✓	0	Mean standard sheer forward =
$\frac{5}{8}L$ from F.P. ...	147	2	✓	294	150	155	2	✓	310	Length of enclosed superstructure forward of amidships =
$\frac{7}{8}L$ " ...	589	4	✓	2356	570	627	4	✓	2508	" " aft of " =
F.P.	1324	1	✓	1324	1140	1410	1	✓	1410	C.S.S.
Total				5960	+270				8443	T.O.

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{2483}{18} \left(.75 - .50 \right) = -34 \text{ mm.}$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

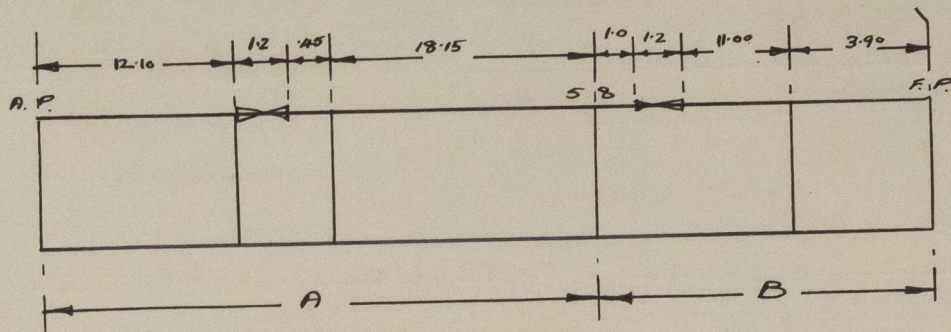
Deduction for Tropical Freeboard.	Addition for Winter and Winter North Atlantic Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Depth to Freeboard Deck = 2.967		Displacement in salt water at summer load water line	Correction for coefficient $\frac{.691 + .68}{1.36} = 1.341/1.36$
Summer freeboard = .50		$\Delta = 9587$	
Moulded draught (d) = 2.917		Tons per inch immersion at summer load water line	Depth Correction 31
Keel allowance =		T = 9.65	Deduction for superstructures 505
Extreme draught =		Deduction = $\frac{\Delta}{40 T}$ inches	Sheer correction 34
Deduction for Tropical freeboard and addition for =		= 6 cm.	Round of Beam correction
Winter freeboard = $\frac{d}{48}$ inches = 6 cm.			Correction for Thickness of Deck amidships ...
Addition for Winter North Atlantic Freeboard (if required) = 6 + 5 = 11 cm.			Other corrections, scantlings, etc. ...
			570 - 570
			Summer Freeboard = -135 mm.

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~W~~ Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc ...	6 cm.	Tropical Fresh Water Freeboard	MINUS 1 cm.
Fresh Water Line " " ...	6 cm.	Fresh Water	MINUS 1 cm.
Tropical Line " " ...	0 (LIMITED)	Tropical	5 cm. (LIMITED)
Winter Line below " " ...	6 cm.	Winter	11 cm.
Winter North Atlantic Line " " ...	11 cm.	Winter North Atlantic	16 cm.

Maiko.

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.



TONNAGE OPENINGS

AFT. (SECTION A).

S.		S.
12100	12100	12100
1200		656
450	338	338
18150	18150	18150
31900	30588	31244

DIFF. = 1312

2) 1312
656

FOR. (SECTION B)

S.		S.
1000	500	500
1200		3350
11000	6000	6000
3900	3900	3900
17100	10400	13750

DIFF. = 6700

2) 6700
3350

SHEER AFT.

SHEER @ POOP FRONT = 90 mm. (SEE NAIRA No. 43894)

EXCESS TW. DK. HT. = 270
360 mm.

VIRTUAL SHEER @ A.P. = $\frac{360 \times 24.5^2}{12.4^2}$
= 1405 mm.

1405
1830 Standard to Sh. Ht.
3235
2960
6.195 M to sheer line.

From drawing = 6.32 M. ∴ 1405 can be used.

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)



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