

LLOYD'S REGISTER OF SHIPPING

UNITED WITH THE BRITISH CORPORATION REGISTER

SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

Received
 Index No.
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 Owners C11

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1408
7.58
2166

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Ship's Name BELURU	Official Number 165023	Nationality and Port of Registry British Bombay	Gross Tonnage 974	Date of Build 1946	Port of Survey
Moulded Dimensions: Length 210.75 Breadth 36.50 Depth 21.69					Date of Survey 28.9.54
Freeboard Length					Surveyor's Signature
Moulded displacement at moulded draught = 85 per cent. of moulded depth (excluding bossing)					Particulars of Classification * 100 AI
Coefficient of fineness for use with Tables .726					WITH FREEBOARD

DEPTH FOR FREEBOARD (D).

Moulded depth **21.69**
 Stringer plate ... **.34** ... **.03**
 Wood Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
 Depth for Freeboard (D) = **21.72**

DEPTH CORRECTION.

(a) Where D is greater than Table depth
 (D-Table depth) R =
 $(21.72 - 14.05) 1.621 = +12.43$
7.67
 (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) **36.50**
 Standard Round of Beam = $\frac{B \times 12}{50} =$ **8.76**
 Ship's Round of Beam = **12.00**
 Difference **3.24**
 Restricted to
 Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{3.24}{4} \times .9236 = .75$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
Fore enclosed OPEN	21.08	12.69	7.00	✓	12.69
" overhang	6.84	3.42		✓	3.42
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	27.92	16.11			16.11

Standard Height of Superstructure **6.00**
 " " R.Q.D. ✓
 Deduction for complete superstructure **27.08**
 Percentage covered $\frac{S}{L} =$ **13.25**
 $\frac{S_1}{L} =$ **7.64**
 $\frac{E}{L} =$ **3.82**
 Percentage from Table, Line A. **3.82**
 (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 = **27.08 x .0382 = -1.03**

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	31.08	1	31.08	27.75	27.75	1	27.75
$\frac{1}{2}$ L from A.P.	13.83	4	55.32	7.60	7.60	4	30.40
$\frac{3}{4}$ L "	3.42	2	6.84	✓	✓	2	✓
Amidships	0	4	0	0	0	4	0
$\frac{3}{4}$ L from F.P.	6.84	2	13.68	✓	✓	2	✓
$\frac{1}{2}$ L "	27.66	4	110.64	18.25	18.25	4	73.00
F.P.	62.15	1	62.15	45.00	45.00	1	45.00
Total			279.71				176.15

Mean actual sheer aft
 Mean standard sheer aft =
 Mean actual sheer forward
 Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =
 aft of
 SHEERS. STANDARD. ACTUAL.
 FORE. **6.84** **3 20.52** **18.25** **3 54.75** **99.75**
27.66 **3 82.98** **45.00** **1 45.00** **165.65**
62.15 **1 62.15** **99.75** **165.65**
103.56 **(.75 - .0663) = +3.93**
6837 If limited to maximum allowance of 1½ ins. per 100 ft.

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{103.56}{18} \left(.75 - \frac{.0663}{2} \right) = +3.93$
 If limited on account of midship superstructure.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **21.72**
 Summer freeboard = **5.73**
 Moulded draught (d) = **15.99**
 Keel allowance =
 Extreme draught =
 Deduction for Tropical freeboard and addition for =

Winter freeboard = $\frac{d}{4}$ inches = **4.00**

Addition for Winter North Atlantic Freeboard = **4.00 + 2.00 = 6.00**

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

$\frac{d}{4} = 4.00$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient **.726 + .68 = 1.406**
1.36

Depth Correction **12.43**
 Deduction for superstructures **1.03**
 Sheer correction **3.93**
 Round of Beam correction **.75**
 Correction for Thickness of Deck amidships
 Other corrections, scantlings, etc.
 corresponding to a Summer M.S.
 Draught of **15'-11 3/4"**
 (actual **15.99'**)

25.70
26.57
4.10.54
 Summer Freeboard = **68.75**

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

Tropical Fresh Water Line above Centre of Disc ...	8.	Tropical Fresh Water Freeboard ...	5'-8 3/4"
Fresh Water Line " " ...	4.	Fresh Water " " ...	5'-0 3/4"
Tropical Line " " ...	4.	Tropical " " ...	5'-4 3/4"
Winter Line below " " ...	4.	Winter " " ...	6'-0 3/4"
Winter North Atlantic Line " " ...	6.	Winter North Atlantic " " ...	6'-2 3/4"

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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.

Forecastle

Length forward of .1L = 21.08'

$$S_1 = L = 21.08 \times .602 = 12.69'$$

Length aft of .1L = 6.84'

$$S_1 = L = 3.42'$$

Block coef.

$$\text{Change of } C_b = .85 \times \frac{7.58}{21.69} \times \frac{.017}{.1}$$

$$= .050$$

$$\therefore C_b = .676 + .050$$
$$= .726$$

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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