

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

MOTOR VESSEL

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Leaving *Shelter deck. with tonnage opening aft*Port of Survey *Shanghai*

(Type of Superstructures.)

Date of Survey *27th + 28th March 1932*

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

M.V. "MYRTLEBANK"

British
Glasgow.

148885

5150

1925-12

Name of Surveyor *G. H. Macdonald*Moulded Dimensions: Length *419.5* Breadth *53.4.75* Depth *26.5 29.17*Moulded displacement at moulded draught = 85 per cent. of moulded depth *12355* tonsCoefficient of fineness for use with Tables *.773*Particulars of Classification *+100 A.1*
with freeboard

Depth for Freeboard (D)

Moulded depth *29.17*Stringer plate *.03*

Sheathing on exposed deck

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

Depth for Freeboard (D) = *29.20*

Depth correction

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

$$(29.20 - 27.97) \times 3 = 3.69$$

(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) *53.75*

$$\text{Standard Round of Beam} = \frac{B \times 12}{50} = 12.90$$

$$\text{Ship's Round of Beam} = 13.00$$

Difference *Excess* *.10*

Restricted to

$$\text{Correction} = \frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.10}{4} \times .0063 = \text{Nil}$$

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) |
|----------------------------|-------------------------|--|----------------------------|-------------------|----------------------|
| Poop enclosed | 23.54 | 23.54 | 8.25' | - | 23.54 |
| " overhang | | | <i>to top of sheathing</i> | | |
| R.Q.D. enclosed | | | | | |
| " overhang | | | | | |
| Bridge enclosed | | | | | |
| " overhang aft | | | | | |
| " overhang forward | 390.71 | 390.71 | " | | 390.71 |
| Fore enclosed | | | | | |
| " overhang | | | | | |
| Trunk aft | | | | | |
| " forward | | | | | |
| Tonnage opening aft | 5'-3" | 2.63 | " | | 2.63 |
| " forward | <i>.25</i> | | | | |
| Total | 419.50 | 416.88 | | | 416.88 |

Standard Height of Superstructure *7.50*" " R.Q.D. *✓*Deduction for complete superstructure *42.00*

$$\text{Percentage covered } \frac{S}{L} = 100.00$$

$$\frac{S_1}{L} = 99.37$$

$$\frac{E}{L} = 99.37$$

Percentage from Table, Line A. *99.22*
(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)

$$\text{Deduction} = 42.00 = .9922 = 41.68$$

SHEER CORRECTION.

| Station | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product |
|----------------------------------|-------------------|---|---|---------|----------------------|--------------------|---|---|---------|
| A.P. | 51.95 | 1 | | 51.95 | <i>48.00 + 9.00</i> | 57.00 | 1 | | 57.00 |
| $\frac{1}{4}$ L from A.P. | 23.12 | 4 | | 92.48 | 18.5 | 25.36 | 4 | | 101.44 |
| $\frac{2}{4}$ L " | 5.71 | 2 | | 11.42 | 1.0 | 6.27 | 2 | | 12.54 |
| Amidships | | 4 | | | | | 4 | | |
| $\frac{3}{4}$ L from F.P. | 11.43 | 2 | | 22.86 | 18.0 | 14.19 | 2 | | 28.38 |
| $\frac{1}{4}$ L " | 46.24 | 4 | | 184.96 | 57.0 | 57.40 | 4 | | 229.60 |
| F.P. | 103.90 | 1 | | 103.90 | <i>120.00 + 9.00</i> | 129.00 | 1 | | 129.00 |
| Total | | | | 467.57 | | | | | 557.96 |

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{90.39}{18} (.75 - .50) = -1.26$$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.*Sheer increased by virtue of excess tween deck height above standard.*Mean actual sheer aft = *Excess*Mean actual sheer forward = *Excess*

Length of enclosed superstructure forward of amidships =

" " aft of " = *C.S.S.**Actual T.D. 44' - 8.25**Standard ... 7.50*
.75 = 9"

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *29.20*Summer freeboard = *3.64*Moulded draught (d) = *25.56*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *6.39 = 6\frac{1}{2}"*Addition for Winter North Atlantic Freeboard (if required) = *✓*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta = 12830$$

Tons per inch immersion at summer load water line

$$T = 45.64$$

Deduction = $\frac{\Delta}{40T}$ inches

$$= \frac{12830}{40 \times 45.64} = 7.03$$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient *.773 + .68 = 1.453*

$$\frac{1.36}{1.36 + \dots}$$

Depth Correction *3.69*Deduction for superstructures *41.68*Sheer correction *1.26*Round of Beam correction *-*Correction for Thickness of Deck amidships *-*Other corrections, scantlings, etc. *-*

$$3.69 + 42.94 - 39.25 = 7.38$$

$$\text{Summer Freeboard} = 43.71$$

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

| | | | |
|---|-----------------------|---------------------------------------|---------------------------|
| Tropical Fresh Water Line above Centre of Disc | <i>13\frac{1}{2}"</i> | Tropical Fresh Water Freeboard | <i>3' - 7\frac{3}{4}"</i> |
| Fresh Water Line " " | <i>7"</i> | Fresh Water " " | <i>2' - 6\frac{1}{4}"</i> |
| Tropical Line " " | <i>6\frac{1}{2}"</i> | Tropical " " | <i>3' - 8\frac{1}{4}"</i> |
| Winter Line below " " | <i>6\frac{1}{2}"</i> | Winter " " | <i>3' - 1\frac{1}{4}"</i> |
| Winter North Atlantic Line " " | <i>6\frac{1}{2}"</i> | Winter North Atlantic " " | <i>4' - 2\frac{1}{4}"</i> |

APR 1932

RECEIVED - 8 DEC 1934
 RECEIVED - 8 JUN 1932
 RECEIVED - 8 JUN 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

| HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS | | | | | | | | | | |
|--|-----------------------------|---|--|---|---|---|---|-------------------------------------|--|--|
| Freeboard Deck | | | | | | | | | | |
| Shelter Deck | | | | | | | | | | |
| Description of Hatchway | No 1 | No 2 | No 3 | No 4, 5 & 6 | No 1 | No 2 | No 3 | No 4, 5 & 6 | Port & Star Deep Tanks | Trimming Hatch |
| Dimensions of Hatchway | 26'-10" x 22'-1" | 31'-5" x 22'-1" | 28'-9" x 22'-1" | 26'-2" x 22'-1" | 27'-0" x 22'-3" | 31'-6" x 22'-3" | 13'-2" x 22'-2" | 26'-3" x 22'-2" | 10'-5" x 9'-0" | 1'-11" x 2'-4" |
| COAMINGS | Height above Deck at Center | 2'-2" | 2'-2" | 2'-2" | 2'-2" | 2'-2" | 2'-2" | 2'-2" | 1'-4" | 9'-2" |
| | Thickness Sides | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" |
| | Thickness Ends | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" | 1/2" |
| | Stiffeners | 3 x 7 x 1/2" C | 3 x 7 x 1/2" C | 3 x 7 x 1/2" C | 3 x 7 x 1/2" C | 3 x 7 x 1/2" C | 3 x 7 x 1/2" C | 3 x 7 x 1/2" C | 3 x 7 x 1/2" C | 3 x 7 x 1/2" C |
| HATCH BEAMS | Brackets, Stays | 6-2 1/2" dia | 5-2 1/2" dia | 6-2 1/2" dia | 6-2 1/2" dia | 6-2 1/2" dia | 6-2 1/2" dia | 6-2 1/2" dia | 6-2 1/2" dia | 6-2 1/2" dia |
| | Number | 3 | 5 | 5 | 4 | 5 | 5 | 2 | 4 | 4 |
| | Spacing | 4'-5 1/2" | 5'-3" | 4'-10" | 5'-3" | 4'-6" | 5'-3" | 4'-10" | 5'-3" | 5'-3" |
| | Scantling and Sketch | not under 17" x at ends 8 1/2" C = 8/30 | not under 14 1/2" x at ends 11" C = 8/30 | not under 16" x at ends 7 1/2" C = 7/30 | not under 16" x at ends 7 1/2" C = 7/30 | not under 17" x at ends 8 1/2" C = 8/30 | not under 17" x at ends 8 1/2" C = 8/30 | not under 18" x at ends 9" C = 8/30 | not under 18" x at ends 9" C = 8/30 | not under 18" x at ends 9" C = 8/30 |
| FORE AND AFTERS | Bearing Surface | all angles 4 1/2" x 3 1/2" | all angles 4 1/2" x 3 1/2" | all angles 4 1/2" x 3 1/2" | all angles 4 1/2" x 3 1/2" | all angles 4 1/2" x 3 1/2" | all angles 4 1/2" x 3 1/2" | all angles 4 1/2" x 3 1/2" | all angles 4 1/2" x 3 1/2" | all angles 4 1/2" x 3 1/2" |
| | Number | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| HATCH COVERS | Material | Wood | Wood | Wood | Wood | Wood | Wood | Wood | Steel plate 1/2" with me 7 x 3 1/2" x 2 1/2" | Steel plate 1/2" with me 7 x 3 1/2" x 2 1/2" |
| | Thickness | 2 1/2" | 2 1/2" | 2 1/2" | 2 1/2" | 2 3/8" | 2 3/8" | 2 3/8" | 2 3/8" | 2 1/4" |
| | How fitted | lying fore & aft | lying fore & aft | lying fore & aft | lying fore & aft | lying fore & aft | lying fore & aft | lying fore & aft | lying fore & aft | lying fore & aft |
| | Bearing Surface | 3" | 3" | 3" | 3" | 3 5/8" | 3 5/8" | 3 5/8" | 3 5/8" | 2 5/8" |
| Spacing of Cleats | 24" | 24" | 24" | 24" | 20" | 25" | 21" | 21" | 21" | 21" |
| Number of Tarpaulins | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 2 | 2 | 2 |
| <p>*Are wood fore and afters steel shod at all bearing surfaces? <i>Yes</i></p> <p>Are battens and wedges efficient and in good condition? <i>Yes</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>Yes</i></p> <p>Are lashings provided in accordance with rule requirements? <i>Yes, on shelter deck only</i></p> | | | | | | | | | | |

Particulars of fiddle, funnel and ventilator coamings:— *Funnel on casing tops 8'-0" above shelter deck.*

Engine room skylights & ventilators in good & efficient condition.

Particulars of Flush Bunker Scuttles:—

Nil

Particulars of Companionways:— *Companionway to Crews Quarter forward:— Plating 1/20"; Nuts - 3 1/2" x 3" x 7/20" angle stiffeners*
Coaming 12" high in way of doorways. Doors 13 1/4" wood 2'-0" x 5'-4". 6'-9" high
2 to Steering engine compartment & tunnel protected by deckhouse on shelter deck
14'-2" x 13'-0" plating 7/20" spacing of stiffeners 2'-9" & 3'-0".

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

See attached Sheet.

14 Vents, coamings 2'-9" to 3'-0" in height

17 " " 6'-8" to 11'-9" " specially stayed.

4 Derrick Post Vents 24 1/2" x 25" dia x 1 1/2"

Efficient closing appliances fitted

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

1 Swan neck air pipe 2'-3" high, 4" dia
33 " " " 2'-6" high, 5" dia
8 " " " 3'-2" high, 2 1/4" dia
3 " " " 3'-2" high, 2" dia
5 " " " 2'-10" high, 3 1/2" dia
3 " " " 3'-0" high, 3 1/2" dia

Efficient means of closing air pipes provided.

Particulars of Gangway Cargo and Coaling Ports:—

Nil



Particulars of Scuppers and Sanitary Discharge Pipes —

| | | | |
|------------------------|--------|--|----------------|
| 1. Tonnage | 1 pair | scuppers at each side discharging to below Main deck | 4" dia. |
| 6 Shelter | 1 | between deck | " " 4" dia |
| From Crews Quarters in | 1 | one " " " " | " " 2 3/4" dia |

all fitted with -
gummetal storm Valves.

Particulars of Side Scuttles: 12-10" dia in Crew Quarter fitted with inside deadlights permanently attached
4-10" dia in Steering engine compartment fitted with inside deadlights permanently attached -

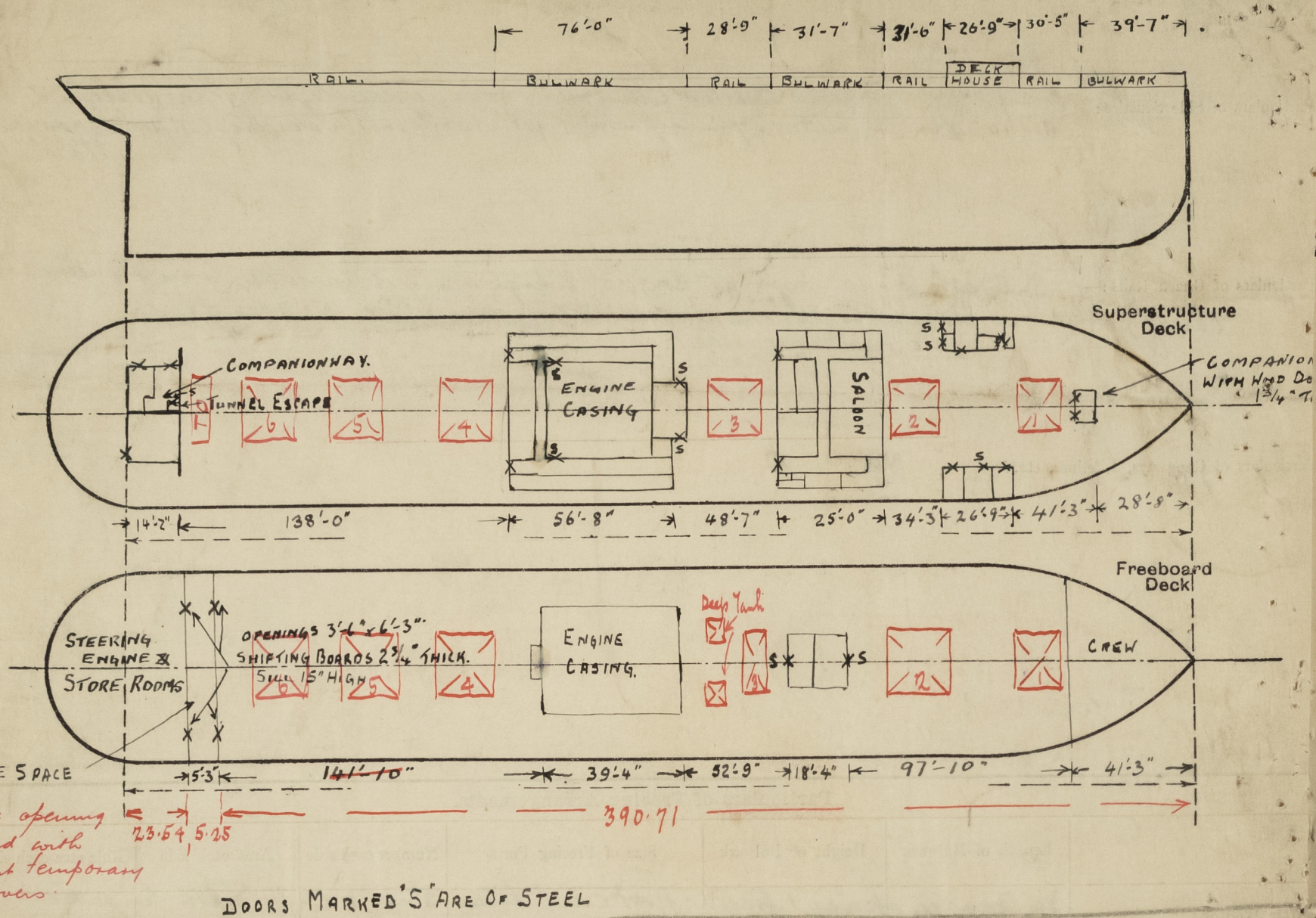
Particulars of Guard Rails:— Bulwark 3'-10" high at Bow, 3'-8" high in way of Bridge deck house & engine room
Carriage, otherwise Stanctions spaced about 4'-6" with 4 Rails 3'-9" high
SEE SKETCH ON OTHER SIDE

Nil.

| Particulars of Superstructures, Trunks, Casings, Deckhouses. | | | | | | | | |
|--|---------|--------------|------------------------------|---------------------|--|----------------------|-----------------|----------------------|
| | Coaming | Plating | Stiffeners | Spacing | End Attachments of Stiffeners | Size of Openings | Height of Sills | Height of Casings |
| Poop Bulkhead | none | 5/16 | alternately 4" fl + 4" BA | 27 | none | two 6'-0" x 3'-6" | 18" | twice sill height |
| Raised Quarter Deck Bulkhead ... | - | | | | | | | |
| Bridge, After Bulkhead | none | 5/16 x 2'-0" | 3 x 5 1/4 x 1/2" | 27 3'-0" + 2'-6" | none | 2'-2" x 5'-5" | 18" | |
| Bridge, Forward Bulkhead | - | 6/20 | FITTED | 3'-0" + 2'-6" | | NIL. | 11 1/2" | |
| Forecastle Bulkhead | none | 5/16 | 4 1/2 x 3 x 5/16 | 24 | none | none | | |
| Trunk, Aft | - | | | | | | | |
| Trunk, Forward | | | | | | | | |
| Exposed Machinery Casings on Free- board or Raised Quarter Decks ... | | | | | | | | |
| Exposed Machinery Casings on Super- structure Decks covered by deckhouse | 6/20 | 6/20 | 3 x 3 x 7/10 | 2'-7" | end stiffeners none side stiffeners bracketed at top | 5'-7" x 2'-0" | 13 1/2" | 8'-0" |
| Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances | | 6/20 | 3 x 3 x 7/10 | 2-7 | bhts | none | | |
| Deckhouses on Flush Deck Ships ... | | | | | | | | |

| Particulars of Closing Appliances (state if capable of being manipulated from both sides). | |
|--|---|
| Poop Bulkhead | Wood shifting boards, 2 3/4" thick full height in riveted channels |
| Raised Quarter Deck Bulkhead ... | Wood shifting boards, 2 3/4" thick full height in riveted channels. |
| Bridge, After Bulkhead | 2 wood doors 1 3/4" thick |
| Bridge, Forward Bulkhead | Nil - |
| Forecastle Bulkhead | |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks ... | |
| Exposed Machinery Casings on Superstructure Decks | manipulated from both sides |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | 1/2" steel doors covered by deck house with 2 wood doors |
| Deckhouses on Flush Deck Ships ... | No openings. |

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



State any special features in the construction of the ship:—

Wood sheathing 3" thick on superstructure

Builder's name and yard number Harland & Wolff Ltd. Glasgow No 683 G.

Names of sister ships M.V. 'INVERBANK'

Owners Bank Line Ltd.

Fee \$ 150.00

Travelling exp. 8.00

Special attendance 60.00

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