

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

WRECK HAY

No. 168-3

Index. No. 18407

(For London Office only.)

16 SEP 1932

25246

18407

 Computation of Freeboard for Steamer, Sailing Ship, Tanker  
 having Roof Bridge and Forecastle

(Type of Superstructures.)

Port of Survey AntwerpDate of Survey 8th September 1932Name of Surveyor A. J. LetaeParticulars of Classification H00A1.7.31.  
Sub. N.3. 8.20.

Ship's Name

KABINDA

Nationality and Port of Registry

Belgian  
Antwerp

Official Number

Gross Tonnage

Date of Build

5.1821917.8Moulded Dimensions: Length 399.5 Breadth 52.0 Depth 31.0Moulded displacement at moulded draught = 85 per cent. of moulded depth 12.070 tonsCoefficient of fineness for use with Tables 7.73

## Depth for Freeboard (D)

Moulded depth ... .. 31.00Stringer plate ... .. .04

Sheathing on exposed deck

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

Depth for Freeboard (D) = 31.04

## Depth correction

(a) Where D is greater than Table depth  
(D-Table depth) R =  $(31.04 - 26.63) 3.00$   
= + 13.23"(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) 52.0Standard Round of Beam =  $\frac{B \times 12}{50} = \frac{52 \times 12}{50} = 12.48$ Ship's Round of Beam = 13.00Difference = + 0.52

Restricted to

Correction =  $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.52^2}{4} \times .4989 = -.06"$ 

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..	<u>49.25</u>	<u>49.25</u>	<u>7.96</u>		<u>49.25</u>
" overhang ... ..					
R.Q.D. enclosed ... ..					
" overhang ... ..					
Bridge enclosed... ..	<u>112.67</u>	<u>112.67</u>	<u>7.96</u>		<u>112.67</u>
" overhang aft ... ..					
" overhang forward ... ..					
Fore enclosed ... ..	<u>38.25</u>	<u>38.25</u>	<u>7.96</u>		<u>38.25</u>
" overhang ... ..					
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ... ..					
" " forward ... ..					
Total ... ..	<u>200.17</u>	<u>200.17</u>			<u>200.17</u>

Standard Height of Superstructure 7.5'" " R.Q.D. ✓Deduction for complete superstructure 41.96"Percentage covered  $\frac{S}{L} = 50.11\%$ " "  $\frac{S_1}{L} = 50.11\%$ " "  $\frac{E}{L} = 50.11\%$ 

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B.

(corrected for absence of forecastle (if required)) 36.11%

Interpolation for bridge less than 2L (if required)

Deduction =  $41.96 \times .3611 = - 15.15"$ 

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<u>49.95</u>	1		<u>49.95</u>	<u>60.00</u>	<u>60.00</u>	1		<u>60.00</u>
$\frac{1}{4}$ L from A.P. ... ..	<u>22.22</u>	4		<u>88.88</u>	<u>26.07</u>	<u>26.07</u>	4		<u>104.28</u>
$\frac{3}{4}$ L " ... ..	<u>5.50</u>	2		<u>11.00</u>	<u>6.52</u>	<u>6.52</u>	2		<u>13.04</u>
Amidships ... ..	<u>✓</u>	4		<u>✓</u>	<u>✓</u>	<u>✓</u>	4		<u>✓</u>
$\frac{3}{4}$ L from F.P. ... ..	<u>10.99</u>	2		<u>21.98</u>	<u>13.23</u>	<u>13.23</u>	2		<u>26.46</u>
$\frac{1}{4}$ L " ... ..	<u>44.45</u>	4		<u>177.80</u>	<u>52.93</u>	<u>52.93</u>	4		<u>211.72</u>
F.P. ... ..	<u>99.90</u>	1		<u>99.90</u>	<u>120.00</u>	<u>120.00</u>	1		<u>120.00</u>
Total ... ..				<u>449.51</u>					<u>535.50</u>

Mean actual sheer aft = Excess  
Mean standard sheer aftMean actual sheer forward = Excess  
Mean standard sheer forwardLength of enclosed superstructure forward of amidships =  $\frac{61.83}{399.5} \times 155 = 24.83$ " " aft of " =  $\frac{50.83}{399.5} \times 129 = 16.29$ Correction =  $\frac{\text{Difference between sums of products}}{18} \left( 75 - \frac{S}{2L} \right) = \frac{85.99}{18} \left( 75 - \frac{250.5}{499.5} \right) = - 2.39"$ 

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.

Depth to Freeboard Deck = 31.04Summer freeboard = 5.99Moulded draught (d) = 25.05

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches =  $\frac{25.05}{4} = 6.26 = 159\%$ Addition for Winter North Atlantic Freeboard (if required) ✓

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 11475$ 

Tons per inch immersion at summer load water line

T = 40.56Deduction =  $\frac{\Delta}{40T}$  inches=  $\frac{11475}{1622.4} = 7.07"$ = 180%

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

Correction for coefficient  $\frac{773 + .63}{1.36} = \frac{1453}{1360}$ 

+ -

Depth Correction ... .. 13.23 -Deduction for superstructures ... .. - 15.15Sheer correction ... .. - 2.39Round of Beam correction ... .. - .06

Correction for Thickness of Deck amidships ... .. -

Other corrections, scantlings, etc. ... .. -

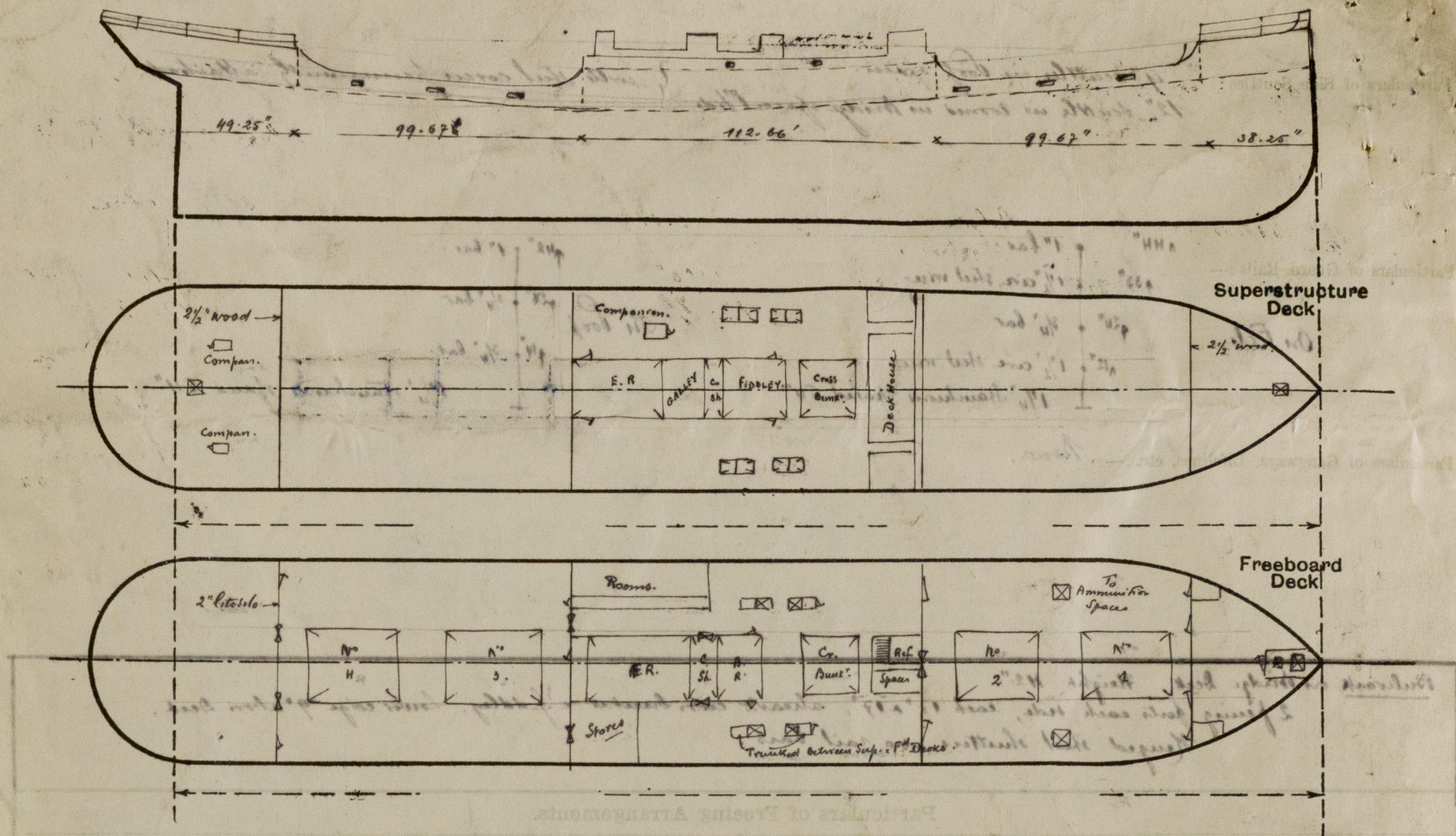
13.23 17.60 4.37Summer Freeboard = 71.85SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:— 71.85" = 1.825 mTropical Fresh Water Line above Centre of Disc ... .. 339%Fresh Water Line " " ... .. 180%Tropical Line " " ... .. 159%Winter Line below " " ... .. 159%Winter North Atlantic Line " " ... .. ✓Tropical Fresh Water Freeboard ... .. 1.486 mFresh Water " " ... .. 1.486 mTropical " " ... .. 1.486 mWinter " " ... .. 1.486 mWinter North Atlantic " " ... .. 1.486 m







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:—

- Bridge After BHD.
- I. Opening 56" x 24" Sill 12" Wood door 1 1/2" frame 1" panels opened from both sides.
  - II. Opening 60" x 45" Sill 18" 2 1/4" shifting board in rivet channel full height of the opening.
  - III. Opening 60" x 24" Sill 18" Wood door 1 1/2" frame 1" panels opened from both sides.
  - IV. Opening 60" x 48" Sill 18" Steel hinged doors locked from outside. 8" dia. hole with grating in top part of each door.
- Forecastle BHD.
- A. Opening 60" x 24" Sill 16" Hinged steel door with ordinary lock.
  - B. Opening 5' x 4'5" Sill 18". Formerly closed with shifting boards. A frame 2 1/4" thick has been fitted in the opening, with a 2" wood door 4' x 3', closed from the outside (padlock).
- Other Openings in Casings inside Bridge.
- I. The forward side bunker hatchway, is partly trunked between Bridge Deck and Upper Deck, and the trunk is fitted with a 36" x 24" hinged steel door, sill 12" above the deck, closed by a handle from the Bridge Spaces.
  - II. One opening 6'0" x 3'8" in the coal shoot casing ~~has no means of closing.~~ *fitted with hinged steel door & clips for securing same*.

The vessel has been examined in Dry Dock, but no part of the Special Survey has been carried out.

External Displacements at 25' draught. 11,350 tons. Tons per inch. 40.5 Ts.  
 " " 26' " 11,850 " " 40.95 Ts.

Builder's name and yard number. Harland & Wolff Ltd. Belfast

Names of sister ships.

Owners Cie Maritime Belge (Lloyd-Royal) Soc. Anon.

Fee £ 3.300. 15/9/32. Received by me