

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **33779**
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Computation of Freeboard for Steamer, Sailing Ship, Frigate					Port of Survey <u>Rotterdam</u>
having <u>BRIDGE & FORECASTLE</u>					Date of Survey <u>6th June 1933</u>
(Type of Superstructures.)					Name of Surveyor <u>Oludde</u>
Ship's Name <u>TUG "EBRO"</u>	Nationality and Port of Registry <u>DUTCH</u> <u>ROTTERDAM</u>	Official Number <u>-</u>	Gross Tonnage <u>260</u>	Date of Build <u>1931</u> <u>2</u>	Particulars of Classification <u>+100 A1</u> <u>FOR TOWING SERVICES</u>
Moulded Dimensions: Length <u>35.36</u> Breadth <u>7.32</u> Depth <u>3.886</u>					
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>517 M³</u>					
Coefficient of fineness for use with Tables <u>.605</u> (<u>.68 TO USE</u>)					

Depth for Freeboard (D)		Depth correction	Round of Beam correction
Moulded depth	<u>3.886</u> x	(a) Where D is greater than Table depth (D-Table depth) R = $\frac{7.32-3.886}{3.886} \times 116 = 116 \times$	Moulded Breadth (B) <u>7.32</u>
Stringer plate	<u>8</u> x	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 116}{50} = 146$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = 63 \times \frac{16.47}{35.36} = 29 \times$	<u>29</u> x	If restricted by superstructures	Ship's Round of Beam = <u>150</u>
Depth for Freeboard (D) = <u>3.923</u> x			Difference EXCESS <u>4</u>
			Restricted to
			Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{4}{4} \times .7333 = (-1)$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed						Standard Height of Superstructure <u>1830</u> x
„ overhang						„ „ R.Q.D. <u>-</u>
R.Q.D. enclosed						Deduction for complete superstructure <u>447</u> x
„ overhang						Percentage covered $\frac{S}{L} = 43.30 \times$
Bridge <u>OPEN</u>	<u>11.77</u>	<u>5.89</u>	<u>2119</u>	<u>-</u>	<u>5.89</u>	„ „ $\frac{S_1}{L} = 26.67$
„ overhang aft						„ „ $\frac{E}{L} = 26.67 \times$
„ overhang forward						Percentage from Table, Line A. <u>13.34</u> x
F'cle <u>OPEN</u>	<u>3.54</u>	<u>3.54</u>	<u>2019</u>	<u>-</u>	<u>3.54</u>	(corrected for absence of forecastle (if required))
„ overhang						Percentage from Table, Line B. <u>16.90</u> x
Trunk aft						(corrected for absence of forecastle (if required))
„ forward						Interpolation for bridge less than 2L (if required) $13.34 + 2.97 = 16.31$
Tonnage opening aft						Deduction = $16.31 \times 447 = 73 \times$
„ „ forward						
Total	<u>15.31</u>	<u>9.43</u>			<u>9.43</u> x	

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	
A.P.	<u>549</u>	1	<u>-549</u>	<u>660</u>	<u>660</u>	1	<u>660</u>	Mean actual sheer aft = EXCESS
$\frac{1}{6}$ L from A.P.	<u>244</u>	4	<u>1976</u>	<u>295</u>	<u>295</u>	4	<u>1180</u>	Mean actual sheer forward = EXCESS
$\frac{2}{6}$ L „	<u>61</u>	2	<u>-122</u>	<u>80</u>	<u>80</u>	2	<u>160</u>	Mean standard sheer aft
Amidships	<u>-</u>	4	<u>-</u>	<u>-</u>	<u>-</u>	4	<u>-</u>	Mean standard sheer forward
$\frac{2}{6}$ L from F.P.	<u>122</u>	2	<u>1244</u>	<u>124</u>	<u>124</u>	2	<u>254</u>	Length of enclosed superstructure forward of amidships =
$\frac{1}{6}$ L „	<u>488</u>	4	<u>-1952</u>	<u>565</u>	<u>565</u>	4	<u>2260</u>	„ „ aft of „ =
F.P.	<u>1094</u>	1	<u>1094</u>	<u>1510</u>	<u>1510</u>	1	<u>1510</u>	
Total			<u>4940</u>				<u>6024</u>	

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{-1084}{18} \times (.75 - .2165) = -1.32$$

If limited on account of midship superstructure. NILIf 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.

$$\begin{aligned} \text{Depth to Freeboard Deck} &= \underline{3.957} \\ \text{Summer freeboard} &= \underline{370} \\ \text{Moulded draught (d)} &= \underline{3.587} \end{aligned}$$

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{40}$ inches = 7 c.m.

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

$$\begin{aligned} \text{Displacement in salt water at summer load water line} &= \underline{582 \text{ M}^3} \\ \text{Tons per inch immersion at summer load water line} &= \underline{2.205} \\ \text{Deduction} &= \frac{\Delta}{40 T} \text{ inches} = \underline{\quad} \end{aligned}$$

TABULAR FREEBOARD

Correction for coefficient

Depth Correction 116 x

Deduction for superstructures 13 x

Sheer correction 1 x

Round of Beam correction 34 x

Correction for Thickness of Deck amidships 150 x

Other corrections, scantlings, etc. 74 x

295 x

295 x

+	-
<u>116</u>	
	<u>13</u>
	<u>1</u>
<u>34</u>	
<u>150</u>	<u>74</u>
	<u>46</u>
	<u>371</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:— 37 c.m. x

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line „ „

Tropical Line „ „

Winter Line below „ „

Winter North Atlantic Line „ „

Tropical Fresh Water Freeboard

Fresh Water „ „

Tropical „ „

Winter „ „

Winter North Atlantic „ „

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway				A	B.	C.					
Dimensions of Hatchway				18" x 24"	1650 x 1650	1650 x 2000					
COAMINGS	{	Height above Deck	18	270	53 1/2						
		Thickness { Sides	26	10 1	8						
			Ends	26	10 1	8 1					
		Stiffeners									
		Brackets, Stays									
HATCH BEAMS	{	Number									
		Spacing									
		Scantling and Sketch									
		Bearing Surface									
FORE AND AFTERS	{	Number									
		Spacing									
		Unsupported Lengths									
		Scantling* and Sketch									
		Bearing Surface									
HATCH COVERS	{	Material	STEEL	PINE	PINE						
		Thickness	FLANGED	75	75						
		How fitted	COVER	TRANSV.	TRANSV.						
		Bearing Surface		75	75						
Spacing of Cleats				LOCKING	610	610					
Number of Tarpaulins				BAR	2	2					

*Are wood fore and afters steel shod at all bearing surfaces?

✓

Are battens and wedges efficient and in good condition?

✓

Are tarpaulins in good condition and in accordance with rule requirements?

✓

Are lashings provided in accordance with rule requirements?

✓

Particulars of fiddle, funnel and ventilator coamings:— Fiddle, funnel and ventilator coamings of steel and in efficient condition.
Fiddle gratings covered by strong steel hinged covers.

Particulars of Flush Bunker Scuttles:— 5 flush bunker scuttles on each side of upper deck.
Strong steel covers, fitted with bayonet joint.

Particulars of Companionways:—

One steel companionway to crewspace aft, will 400% above wood deck.
Steel hinged doors, manipulated from both sides. (H. sliding top.)
One steel companionway at after end of engine skylight, will 540% above wood deck.
Steel hinged doors, operated from both sides. (H. sliding top.)
Steel companionway to crewspace fore (protected by bridge), will 400% above wood deck.
Strong test doors, operated from both sides.

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

Traffic well 3 vents 33" x 8" diam.
In p.p. well 1 " 39" x 8" " and 3 goose-neck vents 22" x 5" diam.
All coverings constructed in accordance with Rules.
Wood plugs, & canvas covers unavailable.

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

Pipes in exposed positions on fireboard, raised quarter, or superstructure decks:—

Afters well : L.A. tank 19 $\frac{1}{2}$ " x 2"
 Hds tanks 2 x 20 $\frac{1}{2}$ " x 2"

Fins well : F.P. tank 26" x 2"
 F.W. tanks 2 x 24" x 2"

Wood plugs & cement covers on board.

Particulars of Gangway Cargo and Coaling Ports :—

Particulars of Scuppers and Sanitary Discharge Pipes —

None below February 1st.

Particulars of Side Scuttles:

None below fireboard deck.

Particulars of Guard Rails :—

Efficient steel bulwarks in wells.

Particulars of Gangways, Lifelines, etc. :—

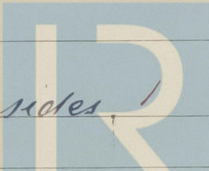
Suitable means provided for rigging life lines which are available in any part of the ship which might have to be used by the crew in the regular working of the vessel.

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	16.54	1.00	.45 x .50	3	1.125	1.108
Forward Well	3.51	1.50	.45 x .50	1	.345	.426
<p>State position of each freeing port } After Well :— (F. and A. position and height above deck edge) } Forward Well :— State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— <i>Shutter fitted hinged at $\frac{1}{4}$ of height.</i></p>						
Additional area where sheer is less than standard.						

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								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	460 x 4 1/2	6	4 1/2 x 6 5/8 x 4	650	3 KTS. TOP	4' 8" x 2' 0"	400 1/2	2100
Deckhouses on Flush Deck Ships ...								

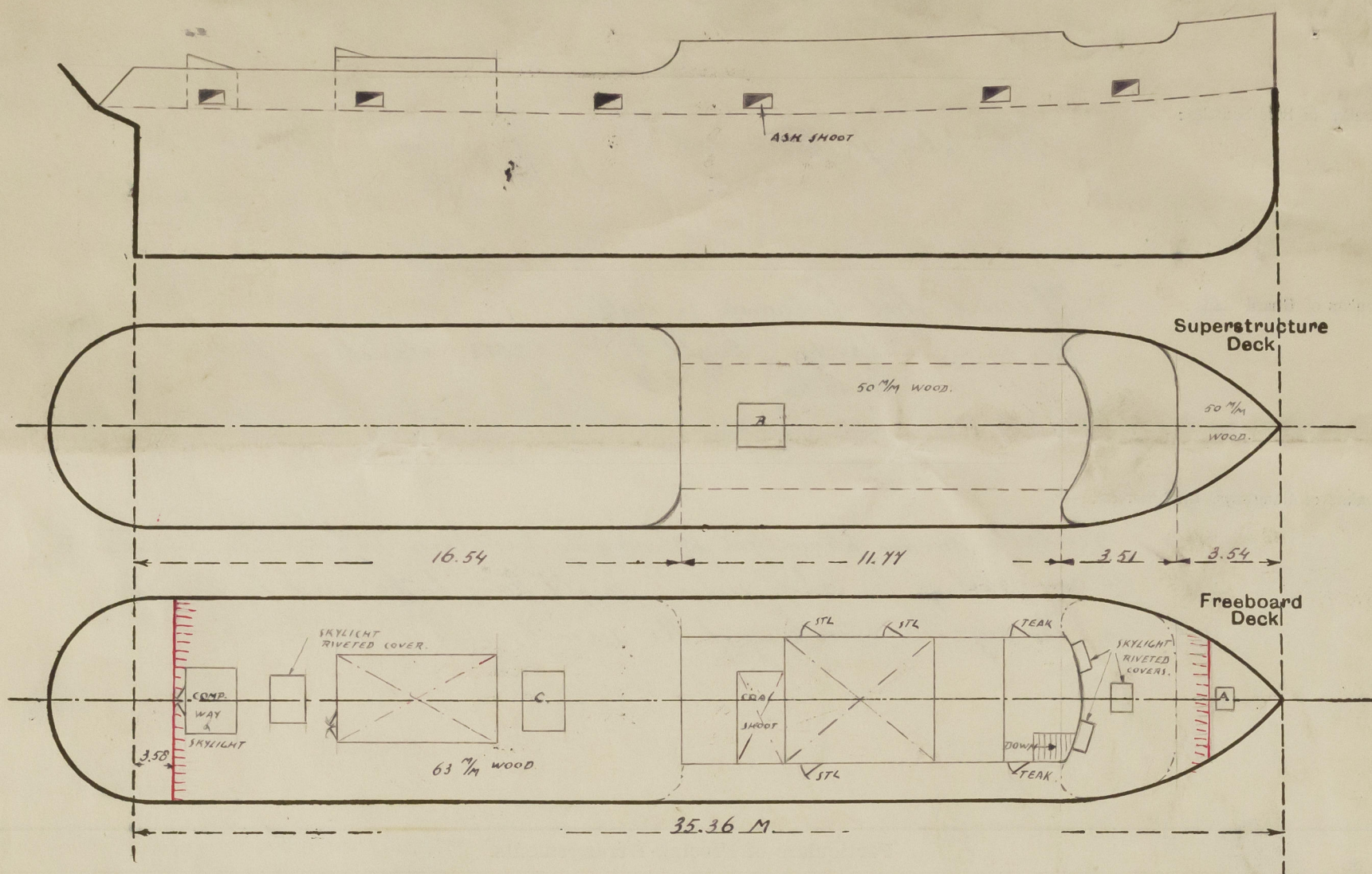
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	...	...	...
Raised Quarter Deck Bulkhead	...		
Bridge, After Bulkhead	...	...	} open.
Bridge, Forward Bulkhead	...	...
Forecastle Bulkhead	...	...	...
Exposed Machinery Casings on Free-board or Raised Quarter Decks	...		
Exposed Machinery Casings on Super-structure Decks	...	...	...
Machinery Casings within Superstructures not fitted with Class I Closing Appliances
Deckhouses on Flush Deck Ships	...		


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Sh. hinged doors operated from both sides.

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 shewn on the following sketches:—



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

Freeboard survey held afloat.

Builder's name and yard number

Machinefabriek en Scheepswerf van P. J. Smit & Co

N° 445

Names of sister ships

✓

Owners

N.V. Internationale Sleepers & Meubelappij

Fee

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