

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

26 MAR 1932

Computation of Freeboard for ~~Steamer, Sailing Ship, Tanker~~

having

Poop and Forecastle.

Port of Survey Rouen

(Type of Superstructures.)

Date of Survey 9-1-32

Name of Surveyor O.H. Kinkadee

Particulars of Classification + 100 A1

Carrying petroleum in bulk.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
M.S. KATENDRECHT	Dutch Rotterdam	-	5099	1925
Moulded Dimensions: Length 402.08 Breadth 53.0 Depth 28.0				
Moulded displacement at moulded draught = 85 per cent. of moulded depth 11432 tons				
Coefficient of fineness for use with Tables 789				

Depth for Freeboard (D)					Depth correction		Round of Beam correction	
Moulded depth	...	...	...	28.00	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	53.0
Stringer plate	...	...	...	.04	(28.04 - 26.81) x 3 = + 3.69		Standard Round of Beam = $\frac{B \times 12}{50}$	12.72
Sheathing on exposed deck	...	...	...	-	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	13.25
$T \left(\frac{L-S}{L} \right) =$	...	...	...				Difference	.53
Depth for Freeboard (D) =	28.04				If restricted by superstructures		Restricted to	
							Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right)$	$= \frac{.53}{4} \times \frac{66}{14} = -.09$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	99.25	99.25	7.5	-	99.25
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
F'cle enclosed	36.87	36.87	7.5	-	36.87
" overhang					
Trunk aft					
" forward					
tonnage opening aft					
" " forward					
Total	136.12	136.12			136.12

Standard Height of Superstructure	7.50
" " R.Q.D.	
Deduction for complete superstructure	42.0
Percentage covered $\frac{S}{L} =$	33.86%
" " $\frac{S_1}{L} =$	33.86%
" " $\frac{E}{L} =$	33.86%
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. TANKER	24.86
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required)	
Deduction = $42 \times .2486 =$	- 10.44

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	50.21	1		50.21	31.75	31.75	1		31.75
$\frac{1}{4}L$ from A.P.	22.34	4		89.36	8.75	8.75	4		35.00
$\frac{2}{4}L$ "	5.52	2		11.04	1.56	1.56	2		3.12
Amidships	-	4		-	-	-	4		-
$\frac{2}{4}L$ from F.P.	11.05	2		22.10	3.12	3.12	2		6.24
$\frac{1}{4}L$ "	44.68	4		178.72	18.44	18.44	4		73.76
F.P.	100.42	1		100.42	64.00	64.00	1		64.00
Total				451.85					213.87

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{237.98}{18} (.75 - .1693) = +7.68$$

If limited on account of midship superstructure.

Mean actual sheer aft = Deficient

Mean actual sheer forward = Deficient

Length of enclosed superstructure forward of amidships =

aft of

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 28.04
Summer freeboard = 5.74
Moulded draught (d) = 22.30

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 5.57

Addition for Winter North Atlantic Freeboard (if required) = 4.02

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 10705$

Tons per inch immersion at summer load water line

T = 43

Deduction = $\frac{\Delta}{40T}$ inches
= 6.22

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{799 + .68}{1.36} = \frac{1.469}{1.36}$

	+	-
Depth Correction	3.69	
Deduction for superstructures		10.44
Sheer correction	7.68	
Round of Beam correction		.09
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	11.37	10.53

Summer Freeboard = 68.89

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

Tropical Fresh Water Line above Centre of Disc	11.79	= 30%	Tropical Fresh Water Freeboard	57.10	= 145%
Fresh Water Line	6.22	= 16%	Fresh Water	62.67	= 159%
Tropical Line	5.57	= 14%	Tropical	63.32	= 161%
Winter Line below	5.57	= 14%	Winter	74.46	= 189%
Winter North Atlantic Line	9.59	= 24%	Winter North Atlantic	78.48	= 199%

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway			Main Cargo Tank Hatchways.				Summer Tank Hatchways		
Dimensions of Hatchway			6'-4" x 4'-2"				6' x 3'-8"		
COAMINGS	{	Height above Deck	220 x 85 x 13 L				36"		
		Thickness					10Z		
		Sides							
		Ends							
		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						
		Thickness	50						
		How fitted	Stiffened on top by riveted struts 3"x1"						
		Bearing Surface	Seams fastenings 35" to 32" dia. distance 18" to 14"						
Spacing of Cleats									
Number of Tarpaulins									
*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 ?									

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 Are battens and wedges efficient and in good condition?
 Are tarpaulins in good condition and in accordance with rule requirements?
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Particulars of fiddle, funnel and ventilator coamings:—

2 steel fiddle covers permanently attached.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

Pump Room companionway of steel, efficiently constructed. W.T. Door 18" sill, operated from both sides.

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

On Forecastle, 2 screw type, carried down to upper deck, with ventilator holes below the fore deck, ventilating the fore hold only. Height above fore 3'-200, 400Z dia, 10Z thick.

On Poop, leading to stores below Poop deck, 8" dia. 6Z thick, 24" height of coaming. Ventilating master stowage 35" - 8Z - 36"

Pump Room Ventilators on upper deck. 430Z - 10Z - 910Z -

Ventilators closed by wood plugs & canvas covers.

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

2 air pipes on Poop from F.W. D.B. Tanks 70Z dia. 600Z height to opening.

4 - - - - - A.P. Tank and F.W. Tanks 50Z dia. - - - -

6 Patent air pipes on Poop from oil bunkers, D.B. bunkers & engine oil D.B. Tanks. 640Z height to opening.

Air pipes closed by Canvas covers.

Particulars of Gangway Cargo and Coaling Ports:—

None.

Particulars of Scuppers and Sanitary Discharge Pipes:—

Sanitary discharge pipes from houses on Poop carried down below freeboard deck and a few above freeboard deck in way of motor space, fitted with C.S. connection at shell & storm valve. Scuppers in Poop space draining workshops etc. under Poop deck have effective means closing fitted.

Particulars of Side Scuttles:—

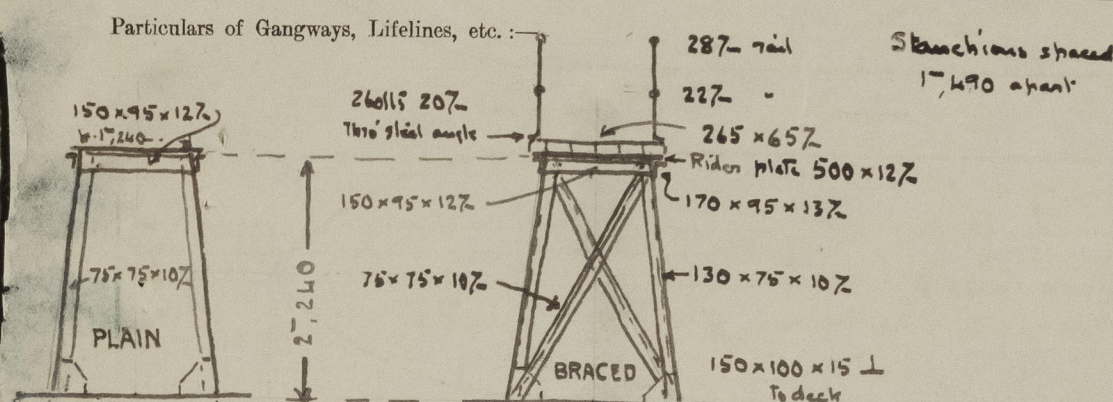
None below freeboard deck. All side scuttles fitted with deadlights.

Particulars of Guard Rails:—

Stanchions 4'-6" apart, height 3'-6" 3 rods (for 1 3/4 x 3/4")

Open rails on freeboard deck for length of 99'-8". Bulwarks for remainder of length. See sketch on page 4.

Particulars of Gangways, Lifelines, etc.:—



The crew is berthed aft & the gangway extends from poop to bridge. Supports spaced 2', 570 apart, braced and plain alternately. No fore and aft bracing. No gangway forward of bridge.

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	Open rail 99'-8"				99'-8" Open rail	
	Bulwark aft 9'-10"					
Forward Well	Bridge 24'-2"					
	Bridge to Open rail 51'-9"	1'-050	3'-0" x 2'-0"	6	36 sq ft	
	Bulwark fwd 73'-3"					

State position of each freeing port (F. and A. position and height above deck edge) After Well:— Ports 250Z above deck Forward Well:— No shutters. 2 bars fitted. Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

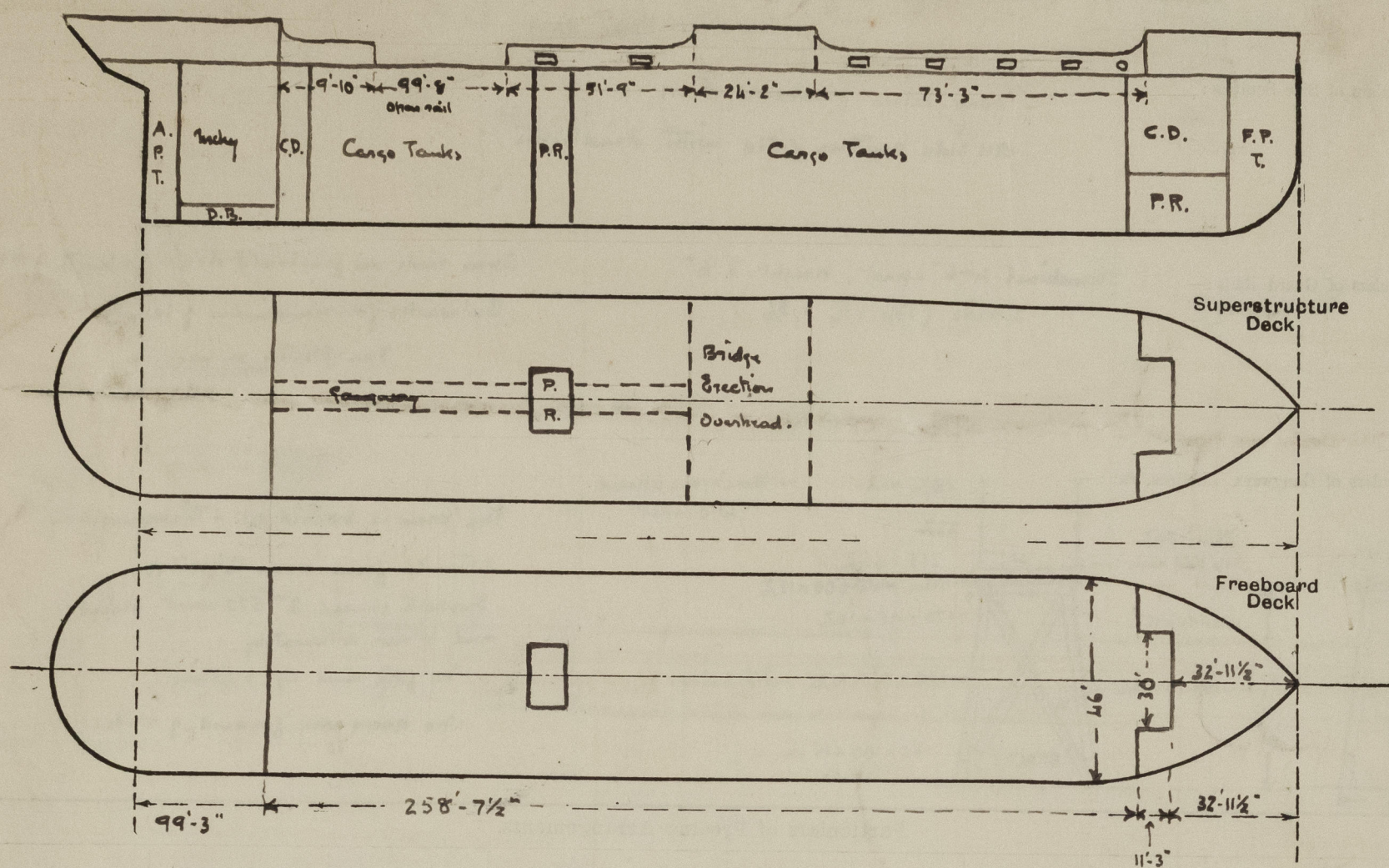
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	610Z	12Z	220 x 100 x 17Z	860Z	Blk 16 in x 60 in	17,370 x 670Z	610Z	27,260
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead		8Z	103 x 70 x 8Z	815Z	none	17,445 x 680Z	460Z	27,330
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships								

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

Poop Bulkhead	2 W.T. steel hinged doors operated from both sides.
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	1 W.T. steel hinged door operated from both sides. Forecastle space for stores only.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel door in alleyway operated from both sides.
Deckhouses on Flush Deck Ships	

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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:—



Feet	32.96
Side Hses. $\frac{16 \times 11.25}{46}$	3.91
<u>27 in. 6 in.</u>	<u>36.87</u>

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

Note. Sheen flat for 23'-10" aft of amidships
 - - - 17'-5" fwd. - -

Builder's name and yard number Maats Fyenoord, Rotterdam.

Names of sister ships

Owners N.O. Maats Motorschip "Katendrecht". (N.O. Ph. van Dammere's Schip. Bedrijf)

Fee Fr. 2000

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