

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. **33164**  
(For London Office only.)No **12910**

21 APR 1933

Computation of Freeboard for Steamer, Sailing Ship, Tanker				
having <i>Shelldeck with tonnage well and Forecastle and Poop deck</i>			Port of Survey <i>Amsterdam</i>	
(Type of Superstructures.)			Date of Survey <i>whilst building</i>	
Ship's Name <i>M.S. TRICOLOR</i>	Nationality and Port of Registry <i>NORWEGIAN</i>	Official Number <i>6821</i>	Gross Tonnage <i>15240</i>	Date of Build <i>1933 5 mo</i>
Moulded Dimensions: Length <i>143.253</i> Breadth <i>10.555</i> Depth <i>9.626 m</i>			Name of Surveyor <i>H. P. Jonker</i>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>699</i>			Particulars of Classification <i>+100 A1 with freeboard</i>	
Coefficient of fineness for use with Tables <i>15209</i>				

<b>Depth for Freeboard (D)</b> Moulded depth <i>amidships</i> ... <i>9.626</i> Stringer plate <i>5989 m</i> ... <i>9.614</i> Leathing on exposed deck ... <i>0.016</i> $T \left( \frac{L-S}{L} \right) =$ <i>✓</i> Depth for Freeboard (D) = <i>9.642</i>	<b>Depth correction</b> (a) Where D is greater than Table depth (D - Table depth) R = <i>8.33(9.642 - 9.55) 30.00 = + 23.7</i> (b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>0.92</i> If restricted by superstructures <i>✓</i>	<b>Round of Beam correction</b> Moulded Breadth (B) <i>10.555 m</i> Standard Round of Beam = $\frac{B \times 42}{50} =$ <i>37.7</i> Ship's Round of Beam = <i>37.5</i> Difference <i>4</i> Restricted to Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{4}{4} \times 0.0058 = \text{NIL}$
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## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height m	Height Correction	Effective Length (E)	
Poop enclosed ...	<i>14.518</i>	<i>14.518</i>	<i>3.413</i>	<i>-</i>	<i>14.518</i>	
„ overhang ...						
R.Q.D. enclosed ...						
„ overhang ...						
Bridge enclosed ...						
„ overhang aft ...	<i>127.059</i>	<i>127.059</i>	<i>3.455</i>	<i>-</i>	<i>127.059</i>	
„ overhang forward ...						
F'cle enclosed ...						
„ overhang ...						
Trunk aft ...						
„ forward ...						
Tonnage opening aft ...	<i>1.676</i>	<i>.838</i>	<i>3.413</i>	<i>-</i>	<i>.838</i>	
„ forward ...						
Total ...	<i>143.253</i>	<i>142.415</i>			<i>142.415</i>	

Standard Height of Superstructure *2290*  
 „ „ R.Q.D. *✓*  
 Deduction for complete superstructure *1067*  
 Percentage covered  $\frac{S}{L} =$  *100%*  
 „  $\frac{S_1}{L} =$  *99.42%*  
 „  $\frac{E}{L} =$  *99.42%*  
 Percentage from Table, Line A. *99.28%*  
 (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 = *1067 × 99.28 = 1059*

## SHEER CORRECTION.

 actual T.O.H. *3455*  
 standard T.O.H. *2290*  
 Excess *1165*

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>1447</i>	<i>1</i>		<i>1447</i>	<i>1622</i>	<i>1436</i>	<i>1</i>		<i>2601</i>
$\frac{1}{2}$ L from A.P. ...	<i>643</i>	<i>4</i>		<i>2572</i>	<i>630</i>	<i>579</i>	<i>4</i>		<i>4628</i>
$\frac{2}{3}$ L „ ...	<i>161</i>	<i>2</i>		<i>322</i>	<i>128</i>	<i>119</i>	<i>2</i>		<i>572</i>
Amidships ...	<i>✓</i>	<i>4</i>		<i>✓</i>	<i>9</i>	<i>0</i>	<i>4</i>		<i>✓</i>
$\frac{2}{3}$ L from F.P. ...	<i>322</i>	<i>2</i>		<i>644</i>	<i>354</i>	<i>345</i>	<i>2</i>		<i>906</i>
$\frac{1}{2}$ L „ ...	<i>1286</i>	<i>4</i>		<i>5144</i>	<i>133</i>	<i>1298</i>	<i>4</i>		<i>7336</i>
F.P. ...	<i>2895</i>	<i>1</i>		<i>2895</i>	<i>3135</i>	<i>2956</i>	<i>1</i>		<i>4121</i>
Total ...				<i>13024</i>					<i>20164</i>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{7140}{18} (.75 - .50) = - 99$$

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <i>9.642</i> Summer freeboard = <i>1.270</i> Moulded draught (d) = <i>8.372</i> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{48}$ inches = <i>174</i> = <i>6.85</i> Addition for Winter North Atlantic Freeboard (if required) =	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line $T =$ Deduction = $\frac{\Delta}{40T}$ inches = <i>6.34</i>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient $\frac{.68 + .699}{1.36} = \frac{1.379}{1.36}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td><i>23</i></td> <td><i>-</i></td> </tr> <tr> <td>Deduction for superstructures ...</td> <td><i>-</i></td> <td><i>1059</i></td> </tr> <tr> <td>Sheer correction ...</td> <td><i>-</i></td> <td><i>99</i></td> </tr> <tr> <td>Round of Beam correction ...</td> <td><i>-</i></td> <td><i>-</i></td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td><i>-</i></td> <td><i>-</i></td> </tr> <tr> <td>Other corrections, scantlings, etc. ...</td> <td><i>-</i></td> <td><i>-</i></td> </tr> <tr> <td></td> <td><i>23</i></td> <td><i>1158</i></td> </tr> </table> Summer Freeboard = <i>1268</i> = <i>49.42</i>		+	-	Depth Correction ...	<i>23</i>	<i>-</i>	Deduction for superstructures ...	<i>-</i>	<i>1059</i>	Sheer correction ...	<i>-</i>	<i>99</i>	Round of Beam correction ...	<i>-</i>	<i>-</i>	Correction for Thickness of Deck amidships ...	<i>-</i>	<i>-</i>	Other corrections, scantlings, etc. ...	<i>-</i>	<i>-</i>		<i>23</i>	<i>1158</i>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:— *4.2* = *1270*Tropical Fresh Water Line above Centre of Disc ... *13.2* = *342* Tropical Fresh Water Freeboard ... *3.02* = *928*Fresh Water Line „ *MARKING FORM* ... *171* Fresh Water ... *3.74* = *1099*Tropical Line „ *MARKING FORM* ... *171* Tropical ... *3.74* = *1099*Winter Line „ *MARKING FORM* ... *171* Winter ... *4.8* = *1441*

Winter North Atlantic Line „ „ „ „ Winter North Atlantic

29 MAY 1933

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The strength of this vessel is equivalent to the standard laid down in the Society's Rules, and it fulfils the requirements of Rule 37, Clause 2 of the International Convention.

RECEIVED 19 JUL 19



PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
ON SHELTER DECK									
ON FREEBOARD DECK									
ON POOP DECK									
Description of Hatchway	N1	N2-3-4-5	Tonnage hatch	N1	N3	N2-4-5			
Dimensions of Hatchway	36-0	35-9 x 14-8 1/2	4-7 1/2 x 14-8 1/2	36-0	19-3	35-9			
COAMINGS	Height above Deck	36	36	9	9	9	36		
	Thickness	44	44	59 x 3 1/2 x 44	69 x 3 1/2 x 44	40			
	Sides	44	44			40			
	Stiffeners	5 x 3 1/2 x 40	4 x 3 1/2 x 40			40			
HATCH BEAMS	Number	4	4	4	3	4			
	Spacing	4-6	4-5 5/8	4-6	4-9 3/4	4-5 9/8			
	Scantling and Sketch			none					
	top angles	4 x 3 x 40	4 x 3 x 40		5 x 3 1/2 x 46	5 x 3 1/2 x 46	5 x 3 1/2 x 46	none	
FORE AND AFTERS	plate	16 x 36	11 1/2 x 32		23 1/2 x 40	25 x 40	23 1/2 x 40		
	bottom angles	4 x 3 x 40	4 x 3 x 40		5 x 3 1/2 x 46	5 x 3 1/2 x 46	5 x 3 1/2 x 46		
	Bearing Surface	3	3		3	3	3		
	Number								
HATCH COVERS	Material	pine	pine	pine	pine	pine	pine		
	Thickness	3	3	3	3	3	3		
	How fitted	longest	longest	longest	longest	longest	longitudinal		
	Bearing Surface	3	3	3	3	3	3		
Spacing of Cleats	24	24		24	24	24	24		
Number of Tarpaulins	two	two	none	two	two	two	two		
*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:— Motorroom skylight of steel strongly constructed. Tunnel and ventilators strongly constructed.

Particulars of Flush Bunker-Scuttles:— COMPANIONWAYS

Hatch on Shelterdeck in fore castle space 40" x 25" 5 coaming 9 x 3 1/2 x 44 hatches 2 1/2". Bearing surface 3" battening down arrangement fitted. Hatchway on Poopdeck 2-10" x 2-10" Coaming 10 x 30 steel hinged W.T. cover

Particulars of Companionways:— On Poopdeck to poop space steel companion way 4-0" x 2-10" x 6-6" high strong teak door 64 x 24 sill 12" closed and operated from both sides. Steel companion way to shelterdeck space built in amidships deck house, strong teak door in after bulkhead deck house 5-2 x 3-1 sill 16" closed and operated from both sides

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— On fore castle deck Ventilators 36" x 10" diam x 32. Goose neck ventilators to fore castle space 26 x 4 diam. On Poopdeck ventilators to Poop space 22 high x 15-8 x 6 diam x 36. Goose neck ventilators to accom. in Poop space 24 x 4 diam. On Shelterdeck ventilators to hold and two decks 48 x 12 diam x 50 connected to deck with L 6 x 6 x 40 and protected by fore castle one ventilator 48" x 10" diam bracketed to bulwark. One ventilator 48" x 12" diam x 50 riveted to deck by L 6 x 6 x 40, two ventilator 54" x 10" diam x 40 bracketed to bulwark, and six ventilators 48" x 24" diam, clanking plate fitted for a height of 1-6" x 40 and riveted to deck by a L 6 x 6 x 40 and two ventilators 48" x 24" diam x 40 riveted to deck by L 6 x 6 x 40 and protected by amidships deck house.

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

Air pipes on fore castle deck to tanks 3 3/4" diam. On Shelterdeck air pipes to tanks 32 x 5" diam, 32 x 4" diam, 32 x 3" diam, 32 x 2 1/2" diam to oil tanks between tunnels 16 x 3" diam protected by hatch coaming. On Poop deck air pipe to tanks 24 x 3" diam

Particulars of Gangway Cargo and Coaling Ports:—

All ventilators are provided with steel covers and canvas covers for closing the openings. All air pipes and goose neck ventilators are provided with canvas covers for closing the openings.

Particulars of Scuppers and Sanitary Discharge Pipes Shelterdeck discharged overboard 10 scuppers on S13 x 9 S. Treeboard deck in way of shelterdeck space & innage well discharged through ship side below freeboard deck one scupper pipe in innage well and 4 scupper pipes in shelterdeck space 4" diam, steam valve fitted and two scupper pipes led to bilges in motor room provided with cock on the lower end. All sanitary discharge pipes of W.C., washplaces etc. fitted on shelterdeck one led through ship side just above freeboard deck and are all provided with storm valve fitted in casing to shell.

Particulars of Side Scuttles:—

No side scuttles fitted to spaces below shelterdeck or freeboard deck. Side scuttles to fore castle and poop space are fitted with deadlights permanently attached in their proper position.

Particulars of Guard Rails:—

Open rail on Fore castle and Poopdeck.

Bulwark on Shelterdeck

Length of bulwark 3'-6"-4 1/2" Height of bulwark 41" Size of freeing ports 4, 4 x 1, to 4, 1 x 1, - Number each side 9 Area each side 52 ft<sup>2</sup> Rule area each side 38 ft<sup>2</sup>

Particulars of Gangways, Lifelines, etc.:— Height of freeing ports above deck edge 10 1/2". one rail fitted, spaced 6" apart.

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	5'-6"	11'-2 1/2"	1, 5' x 1, 4'	one	2, 1 ft <sup>2</sup>	
Forward Well						

State position of each freeing port (F. and A. position and height above deck edge) After Well:— height above deck edge 11" Forward Well:— State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— shutter fitted.

Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

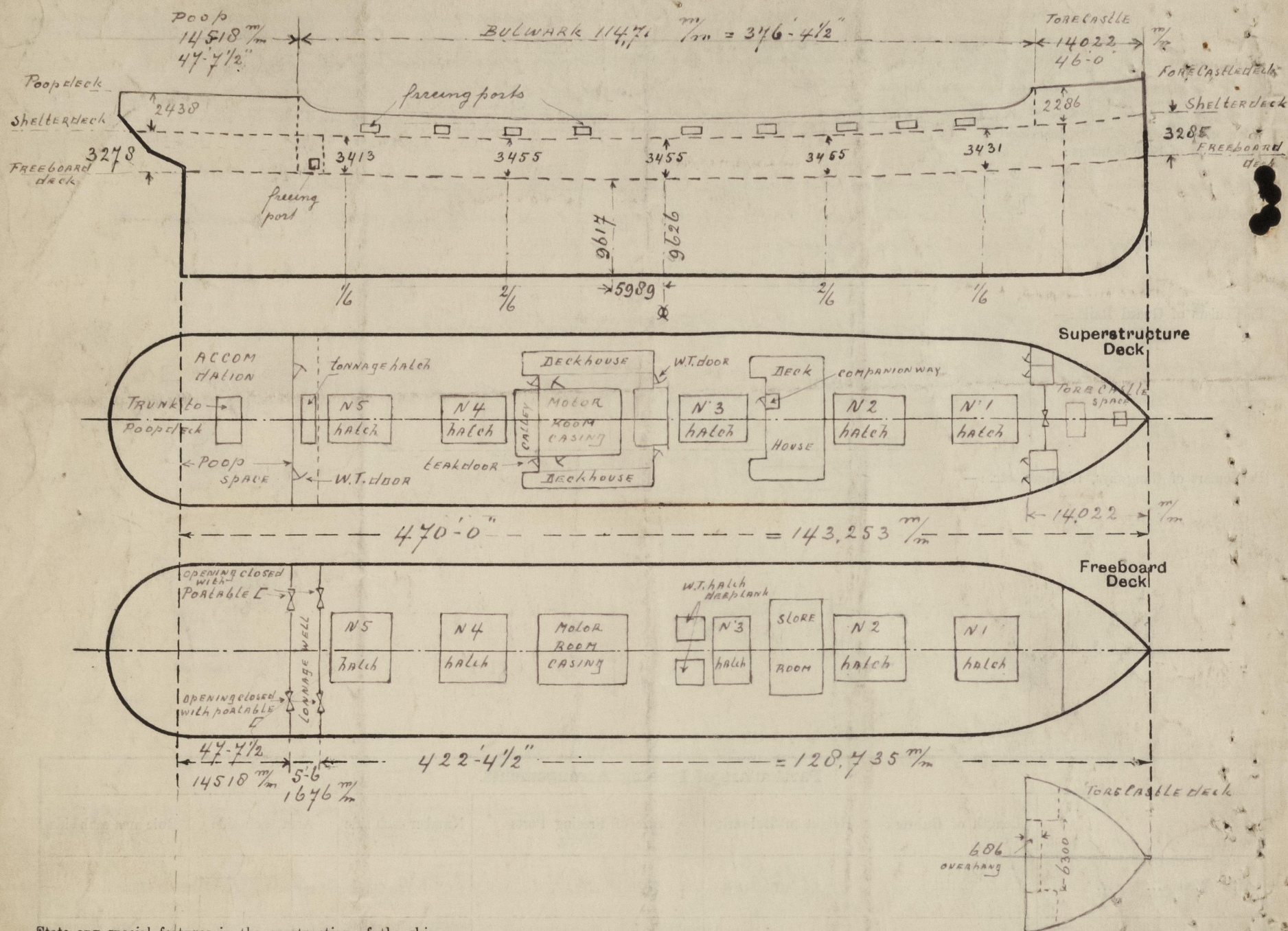
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ON SHELTER DECK	L		L		angle lugs top and bottom	5-6 x 2-6	10"	0-0
AFTER INNAGE WELL (POOP)	6 x 3 1/2 x 36	38"	6 x 3 1/2 x 36	2-4"				
Raised Quarter Deck Bulkhead	24"	24"	5 x 2 1/2 x 32	2-9"	none	11-2 x 4-0	none	11-2 1/2
FORWARD INNAGE WELL BULKHEAD	24"	24"	5 x 2 1/2 x 32	2-9"	none	11-2 1/2 x 4-0	none	11-2 1/2
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead ON SHELTER DECK	6 x 3 x 36	36"	6 x 3 x 36	2-2"	none	5-0 x 2-0	10"	4-6
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	30	30	4 x 3 x 30	2-9"	continuous	5-5 x 2-6	12"	0-0
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	30	30	4 x 3 x 30	2-9"	brackets on top continuous at bottom	2-0 x 2-0	9 1/2	11-4
Deckhouses on Flush Deck Ships	6 x 3 1/2 x 40	at side 26 at front 34	2 3/2 x 2 1/2 x 34 2 5 x 2 1/2 x 36	2-9" 2-6"	angle lugs	5-6 x 2-6	15"	0-0

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

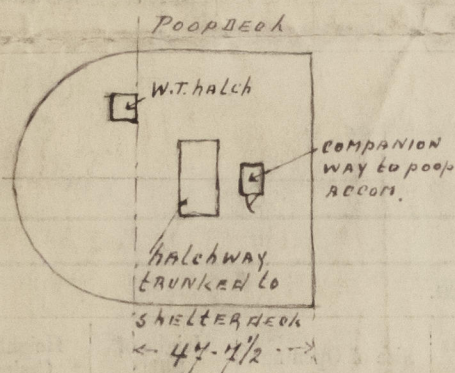
Poop Bulkhead ON SHELTER DECK	Steel watertight door closed and operated from both sides
AFTER INNAGE WELL (POOP)	
Raised Quarter Deck Bulkhead	opening closed with L 140 x 60 x 7 x 10 mm steel channel bars
FORWARD INNAGE WELL BULKHEAD	opening closed with L 140 x 60 x 7 x 10 mm for the full height
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	Opening closed with portable planks 2 1/2 pine fitted in channel bars for the full height
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel door in gangway, closed and operated from both sides
Deckhouses on Flush Deck Ships	Steel W.T. door in front bulkhead closed and operated from both sides strong teak door in after bulkhead sill 12" closed and 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:—



The vessel has been built in accordance of the approved plans.

Shoulded displacement at moulded draught = 85% of the of the moulded depth.  
15270  $\text{t}^3$  inclusive hoose and 15209  $\text{t}^3$  exclusive hoose

Builder's name and yard number. *Messrs. Nederlandsche Scheepsbouw* Yard N° 224

Names of sister ships

Owners *Messrs. Wilh. Wilhelmsen (Tonsberg)*

Fee *204,-*

Received by me



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