

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 *Shelldeck with tonnage well and
Forecastle and Poop deck*

(Type of Superstructures.)

Port of Survey *Amsterdam*Date of Survey *while building*Name of Surveyor *H. P. Jonker*Particulars of Classification *+100 A1
with freeboard.*

Ship's Name

M.S. TRICOLOR

Nationality and Port of Registry

NORWEGIAN

Gross Tonnage

6821

Date of Build

*1933**5 mo*Moulded Dimensions: Length *143.253* Breadth *10.555* Depth *9.626 m*Moulded displacement at moulded draught = 85 per cent. of moulded depth *15240 kg* ¹⁵²⁰⁹ _✓ *tons*

Coefficient of fineness for use with Tables

*699.✓*Depth for Freeboard (D) *m*Moulded depth *amidships* ... *9.626*Stringer plate *5989 mm* *amidships* ... *9.626*

Heating on exposed deck

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

Depth for Freeboard (D) =

9.642

Depth correction

(a) Where D is greater than Table depth

$$(D - \text{Table depth}) R = 8.33(9.642 - 9.55) 30.00 = +23.7$$

(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)

10.555 m

$$\text{Standard Round of Beam} = \frac{B \times 100}{50} =$$

371.7

Ship's Round of Beam

375 m

Difference

4.7

Restricted to

$$\text{Correction} = \frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{4}{4} \times .0058 = \text{Nil.}$$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S)	Height	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 ...					
Fore enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	<i>1.646</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.

(corrected for absence of forecastle (if required))

99.28%

Percentage from Table, Line B.

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = *1067* \times *99.28* = *1059*

SHEER CORRECTION.

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>2601</i>	<i>1</i>	<i>2601</i>	<i>2601</i>
$\frac{1}{4}$ L from A.P. ...	<i>643</i>	<i>4</i>	<i>2572</i>	<i>630</i>	<i>579</i>	<i>1157</i>	<i>4</i>	<i>4628</i>	<i>4628</i>
$\frac{2}{4}$ L " ...	<i>161</i>	<i>2</i>	<i>322</i>	<i>128</i>	<i>119</i>	<i>286</i>	<i>2</i>	<i>572</i>	<i>572</i>
Amidships ...	<i>✓</i>	<i>4</i>	<i>✓</i>	<i>0</i>	<i>0</i>	<i>✓</i>	<i>4</i>	<i>✓</i>	<i>✓</i>
$\frac{3}{4}$ L from F.P. ...	<i>322</i>	<i>2</i>	<i>644</i>	<i>354</i>	<i>345</i>	<i>453</i>	<i>2</i>	<i>906</i>	<i>906</i>
$\frac{1}{4}$ L " ...	<i>1286</i>	<i>4</i>	<i>5144</i>	<i>133</i>	<i>1298</i>	<i>1834</i>	<i>4</i>	<i>7336</i>	<i>7336</i>
F.P. ...	<i>2895</i>	<i>1</i>	<i>2895</i>	<i>313</i>	<i>2956</i>	<i>4121</i>	<i>1</i>	<i>4121</i>	<i>4121</i>
Total ...			<i>13024</i>					<i>20164</i>	<i>✓</i>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{7140}{18} \left(\frac{.75 - .50}{1} \right) = -99.7$$

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 = *9.642*Summer freeboard = *1.270*Moulded draught (d) = *8.372*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{48}$ inches = *17.4* $\frac{1}{2}$ = *6.85*

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

Tons per inch immersion at summer load water line

T =

Deduction = $\frac{\Delta}{40 T}$ inches*= 6 $\frac{3}{4}$ "*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ...

*2370**2403**23**1059**99**-**-**-**23**1159**- 1135*Summer Freeboard = *1268* = *49.92*

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

Tropical Fresh Water Line above Centre of Disc ...

Fresh Water Line

Tropical Line

Winter Line

Winter North Atlantic Line

*13 $\frac{1}{2}$ " = 342**17 $\frac{1}{2}$ " = 171**17 $\frac{1}{2}$ " = 171**17 $\frac{1}{2}$ " = 171**17 $\frac{1}{2}$ " = 171*

Tropical Fresh Water Freeboard ...

Fresh Water

Tropical

Winter

Winter North Atlantic

*4.2" = 1270**3.0 $\frac{1}{2}$ " = 928**3.7 $\frac{1}{2}$ " = 1099**3.7 $\frac{1}{2}$ " = 1099**4.8 $\frac{1}{2}$ " = 1441**4.8 $\frac{1}{2}$ " = 1441**4.8 $\frac{1}{2}$ " = 1441**4.8 $\frac{1}{2}$ " = 1441**4.8 $\frac{1}{2}$ " = 1441**4.8 $\frac{1}{2}$ " = 1441**4.8 $\frac{1}{2}$ " = 1441*

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
ON SHELLERDECK									
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	4-1/2 x 14-8 1/2	36-0	19-3	35-9			
COAMINGS	Height above Deck	36	9	9	9	9	36		
	Thickness Sides	.44	.44	.44	.44	.44	.44		
	Stiffeners	4 x 3 1/2 x .40	4 x 3 1/2 x .40	4 x 3 1/2 x .40	4 x 3 1/2 x .40	4 x 3 1/2 x .40	4 x 3 1/2 x .40		
	Brackets, Stays	4 x 3 1/2 x .40	4 x 3 1/2 x .40	4 x 3 1/2 x .40	4 x 3 1/2 x .40	4 x 3 1/2 x .40	4 x 3 1/2 x .40		
HATCH BEAMS	Number	4	4	4	4	4	4		
	Spacing	4-6"	4-5 5/8"	4-6"	4-6"	4-5 3/4"	4-5 5/8"		
	Scantling and Sketch	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40		
	top angles	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40		
FORE AND AFTERS	Number	4	4	4	4	4	4		
	Spacing	4-6"	4-5 5/8"	4-6"	4-6"	4-5 3/4"	4-5 5/8"		
	Scantling and Sketch	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40		
	bottom angles	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40	4 x 3 x .40		
HATCH COVERS	Number	3	3	3	3	3	3		
	Thickness	3	3	3	3	3	3		
	How fitted	longitudinal	longitudinal	longitudinal	longitudinal	longitudinal	longitudinal		
	Bearing Surface	3	3	3	3	3	3		
Spacing of Cleats	24	24	24	24	24	24	24		
Number of Tarpaulins	two	two	two	two	two	two	two		

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 Shellerdeck in fore castle space 40" x 25" 5 coaming 9 x 3 1/2 x .44 Hatch 2 1/2"
Bearing surface 3" Battening down arrangement fitted.
Hatchway on Poopdeck 2'-10" x 2'-10" Coaming 10 x .30 steel ringed W.T. cover

Particulars of Companionways:— *On Poopdeck to poop space steel companionway 4'-0" x 2'-10" x 6'-6" high*
strong teak door 64 x 24 sill 12" closed and operated from both sides
Steel companionway to Shellerdeck 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 15-0 x 6 diam x .36
Goose neck ventilators to accom. in Poop space 24 x 4" diam
On Shellerdeck ventilators to hold and tween decks 40 x 12 diam x .50 connected to deck with L 6 x 6 x 4 PL
by fore castle one ventilator 40" x 10" diam bracketed to Bulwark, One ventilator 40" x 12 diam x .50
bracketed to deck by L 6 x 6 x 4 PL, two ventilator 54" x 10" diam x .40 bracketed to Bulwark, and two ventilators
40" x 24" diam double plate fitted for a height of 1'-6" x .40 and welded to deck by L 6 x 6 x 4 PL
and two ventilators 40" x 24" diam x .40 riveted to deck by L 6 x 6 x 4 PL and protected by midships 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" x 4" diam
On Shellerdeck 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 funnels 16 x 3" diam protected by hatch coaming
On Poop deck air pipes 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 *Shellerdeck discharged overboard 10 scuppers on SPS*
Treeboard deck in way of Shellerdeck space & tonnage well discharged through ship side below freeboard deck
one scupper pipe in tonnage well and 4 scupper pipes in Shellerdeck space 4" diam, storm valve fitted
and two scupper pipes led to bulge in motor room provided with cock on the lower end
All sanitary discharge pipes of W.C. washplaces etc. fitted on Shellerdeck are led through
ship side just above freeboard deck and are all provided with storm valve fitted
in casting to shell

Particulars of Side Scuttles:
No side scuttles fitted to spaces below Shellerdeck 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 Shellerdeck
Length of bulwark | *Height of bulwark* | *Size of freeing ports* | *Number each side* | *Area each side* | *Rule area each side*
3'-6" - 4'-2" | *41"* | *4 1/2" x 1" to 4 1/2" x 1"* | *9* | *52 ft²* | *38 ft²*

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

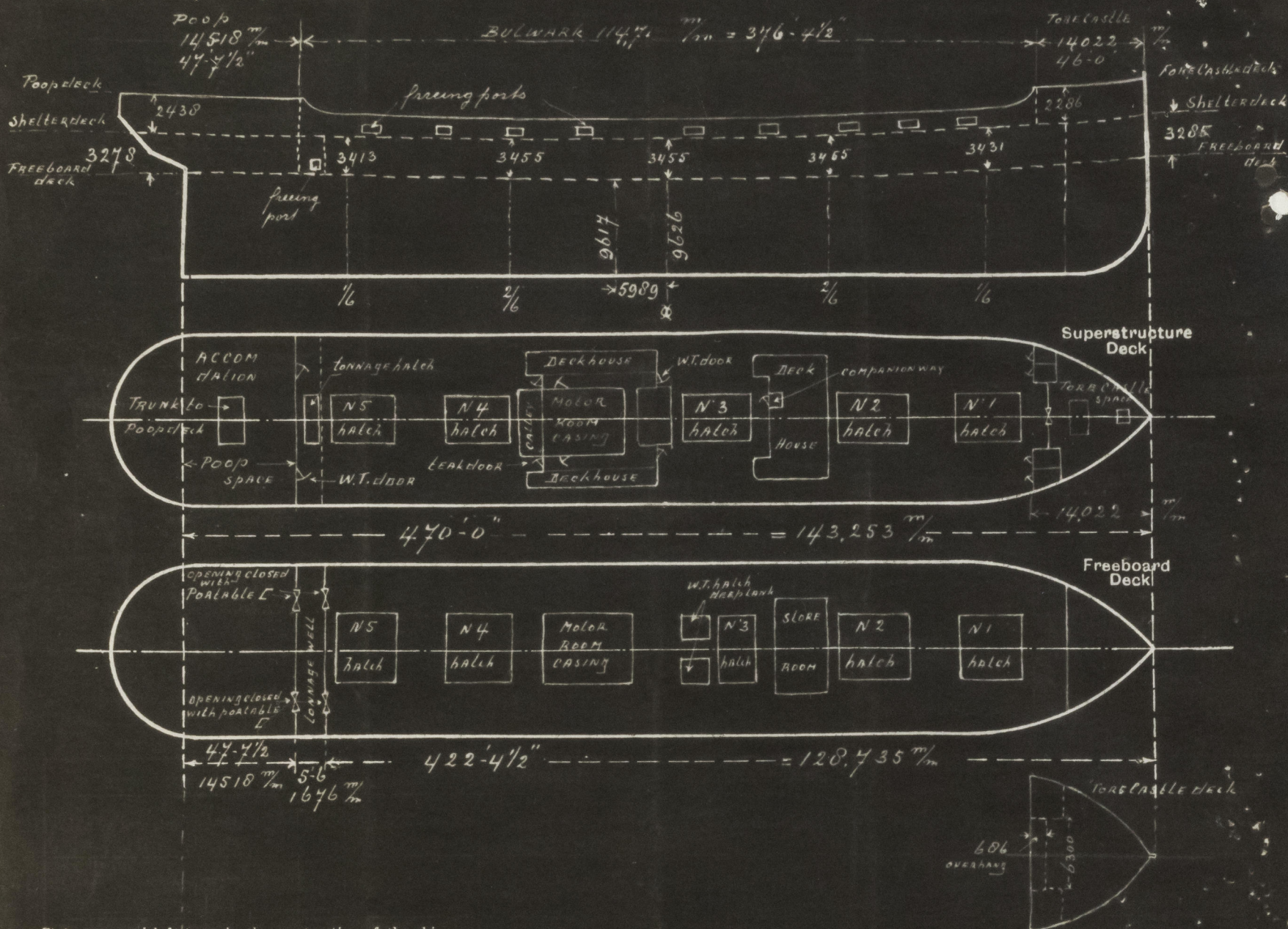
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	5'-6"	11'-2 1/2"	1, 5' x 1, 4'	one	2, 1 ft ²	
Forward Well						

State position of each freeing port (F. and A. position and height above deck edge) } After Well:— *height above deck edge 11"*
 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.

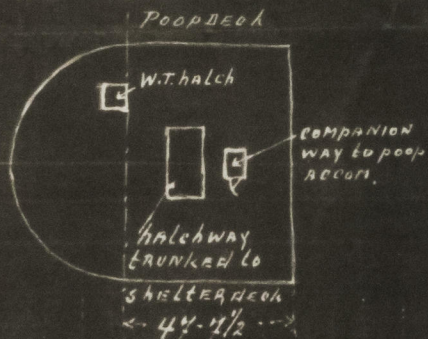
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead on Shellerdeck	6 x 3 1/2 x .36	.30"	6 x 3 1/2 x .36	2'-4"	angle lugs top and bottom	5'-6" x 2'-6"	18"	0'-0"
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"
Bridge, After 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, Forward Bulkhead								
Forecastle Bulkhead on Shellerdeck	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	4 1/2 x 2 1/2 x .34	2'-9"	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 Shellerdeck	Steel watertight door closed and operated from both sides
Raised Quarter Deck Bulkhead	Opening closed with L 140 x 60 x 7 x 10 in. channel bars
Bridge, After Bulkhead	Opening closed with L 140 x 60 x 7 x 10 in. for the full height
Bridge, Forward Bulkhead	
Forecastle Bulkhead	Opening closed with portable planks 2 1/2 in. fitted in channel bars for the full height
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	Steel door in gangway, closed and operated from both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
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 shown 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 t^3 inclusive hoose and 15209 t^3 exclusive hoose*

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

Names of sister ships

Owners *Messrs. Wilh. Wilhelmsen (Tonsberg)*

Fee *£ 204.-*

Received by me



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