

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

 having Forecastle & Bridge (combined), Tonnage opening & Poop.  
i.e. Shelter deck with tonnage opening aft.  
 (Type of Superstructures.)

 Port of Survey **MELBOURNE**  
 Rpt. No. **5103.**
Date of Survey 10<sup>th</sup> to 13<sup>th</sup> August 1932.Name of Surveyor *J. W. C. ...*
 Particulars of Classification **100 AI**  
 S.S. Incl. No. 1-31 **with freeboard.**

 Ship's Name **S. "ASTORIA"** Nationality and Port of Registry **Danish Copenhagen** Official Number **4454** Gross Tonnage **1926** Date of Build **4 mo**  
 Moulded Dimensions: Length **380'** Breadth **53'-3"** Depth **28'**  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth **23.8 ft = 10690** tons  
 Coefficient of fineness for use with Tables **.78 .777**

Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth	...	28'-0"	(a) Where D is greater than Table depth		Moulded Breadth (B)	53'-3"
Stringer plate	...	.38"	(D-Table depth) R =	17.9	Standard Round of Beam = $\frac{B \times 12}{50}$	12.798
Sheathing on exposed deck	...		(28.03 - 25.33) 2.70 =	+ 7.89	Ship's Round of Beam	13.5
T $\left(\frac{L-S}{L}\right) =$			(b) Where D is less than Table depth (if allowed)		Difference	71.72
			(Table depth-D) R =		Restricted to	$\frac{72}{4} \times .0082 =$ NL
Depth for Freeboard (D) =	28.038 ft		If restricted by superstructures		Correction = $\frac{\text{Diff}^c}{4} \times \left(1 - \frac{S_1}{L}\right)$	-009

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed	27'-11"	27'-11"	8'	-	27'-11"	Standard Height of Superstructure <b>7'-3 1/2"</b>
" overhang	2'-6"	1'-3"	"	-	1'-3"	" " R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure <b>40.67</b>
" overhang						Percentage covered $\frac{S}{L} = 100\%$
Bridge enclosed						" $\frac{S_1}{L} = .9918$
" overhang aft	344'-7"	344'-7"	8'	-	344'-7"	" $\frac{E}{L} = .9918$
" overhang forward						Percentage from Table, Line A. <b>98.99</b>
F'cle enclosed						(corrected for absence of forecastle (if required))
" overhang						Percentage from Table, Line B. <b>98.77</b>
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft	5'-0"	3'-1 1/2"	8'	-	3'-1 1/2"	Deduction = <b>40.16</b> $40.67 \times .9899 = 40.26$
" forward						
Total	380'-0"	376'-10 1/2"			376'-10 1/2"	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	48.0	1		48.0	36.49	53.40	1		53.40	Mean actual sheer aft = <b>148</b>
1/2 L from A.P.	21.36	4		85.44	18.20	22.2	4		88.8	Mean standard sheer aft = <b>144</b>
1/2 L	5.28	2		10.56	6.50	7.4	2		14.8	Mean actual sheer forward = <b>303.7</b>
Amidships	0	4		0	0	0	4		0	Mean standard sheer forward = <b>288</b>
3/4 L from F.P.	10.56	2		21.12	12.11	13.2	2		26.4	Length of enclosed superstructure forward of amidships = $\frac{190}{380} = .5$
3/4 L	42.72	4		170.88	42.44	46.2	4		184.8	" " aft of " = $\frac{154.6}{380} = .4$
F.P.	96.0	1		96.0	84.99	92.5	1		92.5	
Total				432					451.8	

 Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{19.8}{18} \times .25 = .275 = .70$ 

If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

 Depth to Freeboard Deck **28'-0 3/8"**  
 Summer freeboard **3'-1 1/2"**  
 Moulded draught (d) **24'-11"**

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = **6 1/4"**

## Addition for Winter North Atlantic Freeboard (if required)

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 10735$ 

Tons per inch immersion at summer load water line

T = **41**Deduction =  $\frac{\Delta}{40T}$  inches= **6 1/2"**= **167 mm**

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

Correction for coefficient **78 + .68 = 1.07**Depth Correction ... **7.9**Deduction for superstructures ... **40.16**Sheer correction ... **275**Round of Beam correction ... **003**

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = **32.54**Summer Freeboard = **32.54**

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

Tropical Fresh Water Line above Centre of Disc ... **325 1/2"**Fresh Water Line " " ... **164 1/2"**Tropical Line " " ... **158 1/2"**Winter Line below " " ... **158 1/2"**Winter North Atlantic Line " " ... **158 1/2"**Tropical Fresh Water Freeboard ... **2'-0 3/4"**Fresh Water " " ... **2'-7"**Tropical " " ... **2'-7 1/2"**Winter " " ... **3'-7 1/2"**Winter North Atlantic " " ... **3'-7 1/2"**

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

## HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Description of Hatchway	SHELTER DECK					UPPER DECK				
	No 1	No 2	No 3	No 4	No 5	No 1	No 2	No 3	No 4	No 5
Dimensions of Hatchway	29'4" x 18'	30' x 20'	30' x 20'	30' x 20'	30' x 18'	33'9" x 18'	32'6" x 20'	32'6" x 20'	32'6" x 20'	32'6" x 18'
COAMINGS	33" at sides & 31" at the middle					9"	9"	9"	9"	9"
	Height above Deck	44"	44"	44"	44"	40"	40"	40"	40"	40"
	Thickness	44"	44"	44"	44"	40"	40"	40"	40"	40"
	Sides	44"	44"	44"	44"	40"	40"	40"	40"	40"
HATCH BEAMS	Stiffeners	7' x 3" x 48 bulb angle longitudinally, 10' from top of coaming	7' x 3" x 48 bulb angle longitudinally, 10' from top of coaming	7' x 3" x 48 bulb angle longitudinally, 10' from top of coaming	7' x 3" x 48 bulb angle longitudinally, 10' from top of coaming	7' x 3" x 48 bulb angle longitudinally, 10' from top of coaming	7' x 3" x 48 bulb angle longitudinally, 10' from top of coaming	7' x 3" x 48 bulb angle longitudinally, 10' from top of coaming	7' x 3" x 48 bulb angle longitudinally, 10' from top of coaming	7' x 3" x 48 bulb angle longitudinally, 10' from top of coaming
	Brackets, Stays	3 each side of No 1 Hatch, 2 each side of other Hatchways	3 each side of No 1 Hatch, 2 each side of other Hatchways	3 each side of No 1 Hatch, 2 each side of other Hatchways	3 each side of No 1 Hatch, 2 each side of other Hatchways	3 each side of No 1 Hatch, 2 each side of other Hatchways	3 each side of No 1 Hatch, 2 each side of other Hatchways	3 each side of No 1 Hatch, 2 each side of other Hatchways	3 each side of No 1 Hatch, 2 each side of other Hatchways	3 each side of No 1 Hatch, 2 each side of other Hatchways
	Number	5	5	5	5	6	6	6	6	6
	Spacing	4'-10"	5'-2"	5'-2"	5'-2"	4'-10"	4'-8"	4'-8"	4'-8"	4'-8"
FORE AND AFTERS	Scantling and Sketch	A. 13" B. 18" C. 18" D. 18" E. 18"	13" 18" 18" 18" 18"	13" 18" 18" 18" 18"	13" 18" 18" 18" 18"	13" 18" 18" 18" 18"	13" 18" 18" 18" 18"	13" 18" 18" 18" 18"	13" 18" 18" 18" 18"	13" 18" 18" 18" 18"
	Bearing Surface	4" x 4" x 44" Angles (double) on all Hatch beams	4" x 4" x 44" Angles (double) on all Hatch beams	4" x 4" x 44" Angles (double) on all Hatch beams	4" x 4" x 44" Angles (double) on all Hatch beams	4" x 4" x 44" Angles (double) on all Hatch beams	4" x 4" x 44" Angles (double) on all Hatch beams	4" x 4" x 44" Angles (double) on all Hatch beams	4" x 4" x 44" Angles (double) on all Hatch beams	4" x 4" x 44" Angles (double) on all Hatch beams
	Number	5	5	5	5	6	6	6	6	6
	Spacing	4'-10"	5'-2"	5'-2"	5'-2"	4'-10"	4'-8"	4'-8"	4'-8"	4'-8"
HATCH COVERS	Material	White pine	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	How fitted	Fore & Aft	F & A	F & A	F & A	F & A	F & A	F & A	F & A	F & A
	Bearing Surface	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
Spacing of Cleats	12" at forward end of No 1 Hatch, All others - sides & ends - 25" to 26"									
Number of Tarpaulins	2	2	2	2	2	2	2	2	2	2
<p>Are wood fore and afters steel shod at all bearing surfaces? None</p> <p>Are battens and wedges efficient and in good condition? Yes</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? Yes</p> <p>Are lashings provided in accordance with rule requirements? Yes</p>										

Particulars of fiddle, funnel and ventilator coamings:— Steel casing over Engine room, 7'-6" high, 26 plating, 3" x 2 1/2" x 30" beams, casing 14 ft wide on shelter deck, protected by accommodation erections each side. Funnel - for exhaust pipes etc - connected by angle ring riveted to top of casing. 4 Ventilators to Eng Room, Two fore ones - 2'-0" dia & approx 12' in height, 3/16" plating, (not supported). Engine room skylights, steel, riveted to casing, steel hinged covers with "bull's eye" glasses.

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:— Companionway to Crew's accommodation space in poop - inside a steel erection on shelter deck, 7'-6" high, 2 teak doors, 1 1/2" thick (one port & one stand) 2'-4" x 5'-3", Height of sills 15". Doors can be manipulated from both sides. Companionway to stores inside bridge erection (steel) 8' high 2 teak doors at after end 2'-0" x 5'-3", 1 1/2" thick, operated from both sides. Height of sills 14 1/2"

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

18" dia Vents 3-Coamings:— 2 on Forecastle head to No 1 Hold, 2 on Forecastle head to No 2 Hold, 2 on Mainmast to No 4 " 2 fore end of Poop " " " 2 18" dia Vents at after end of Machinery Casing 12' high, efficiently supported. All 18" Vents on SHELTER DK HAVE 15" PIPES BELOW THEM FROM UPPER DK. ALL VENTILATORS HAVE EFFICIENT COVERS.

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

On Forecastle Head:— One 2 1/2" Swan neck 2'-4" high to fore peak - under apron plate at stem. " " " 3'-0" " " No 1 tank - in starboard side waterway. On Shelter deck:— 21 air pipes to various tanks, Swan neck pattern, 3'-0" high, in waterways, close to bulwarks or rails.

Particulars of Gangway Cargo and Coaling Ports:—

Rpt. C. 11 (Contd.)

Index No.

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Ship's Name "ASTORIA".

Official No. 168233

Memorandum of alterations reported since ship was surveyed for assignment of Load Lines in August, 1932.

Additions. A tunnel escape hatch fitted abaft the tonnage hatchway. Hatch coaming on shelter deck 2'0" diameter, 18" high x .5" plate, framed to deck with 3 1/2" x 3 1/2" x .38" angle ring, all welded. Deck plating in way doubled with .38" plate. Coaming fitted with substantial flanged steel cover, hinged, jointed and fitted with efficient locking arrangements.

Noted. 20/1/42.



## Particulars of Scuppers and Sanitary Discharge Pipes —

Shelter deck:— 9 scuppers each side 5" x 3" cut through shelter dk stringer angle.

Upper deck:— 5 scuppers each side 3½" dia fitted with storm valve (see sketch below.)

1 scupper " " " " " " " " " " in tonnage well.

All sanitary discharges are fitted with storm valves &amp; are above freeboard deck

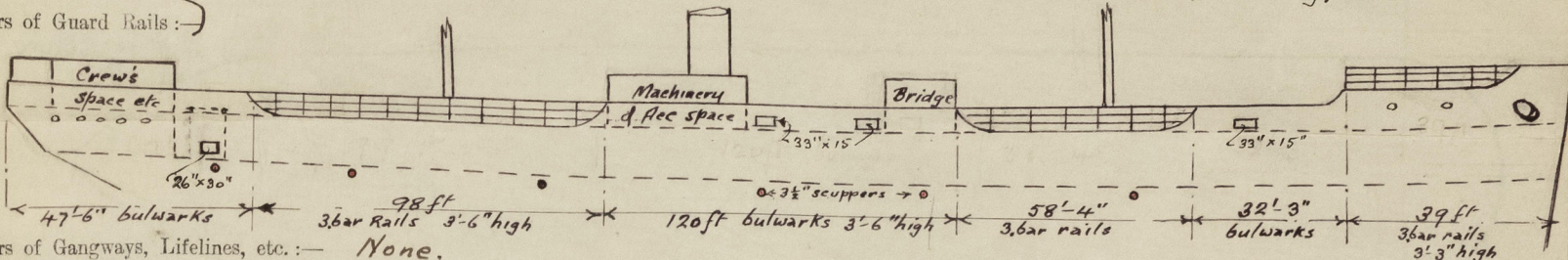
## Particulars of Side Scuttles:

No side scuttles below upper ~~shelter~~ decks.

5 side scuttles (9" &amp; 10") each side in poop spaces above shelter deck.

(3 Bar open rails &amp; Bulwarks 3'-6" high, 6" Rail bar, bracketed to deck with 6" x 3" x 20° bulb angles on every frame.

## Particulars of Guard Rails:

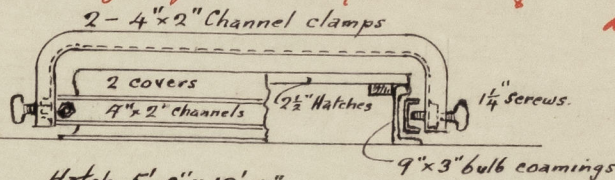


## Particulars of Gangways, Lifelines, etc.:—

None.

Stanchions fitted in angle of hatchway coamings & run lifelines ~~at~~ <sup>where necessary</sup>

— Closing appliances —  
— for —  
— Tonnage Hatch. —



Hatch 5'-0" x 18'-0"

Breadth of Vessel at centre of Hatch = 45'-3"

## 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 ... ..	Tonnage Well 7'-6"	8'-0"	2'-2" x 2'-6" with hinged shutters	1	5.4 sq ft.	
Forward Well ... ..	For freeing arrangements on shelter dk - see above sketch. the after two only, fitted with hinged shutters, all (amidships)			3 each side as shown have one bar in centre		
State position of each freeing port ... .. (F. and A. position and height above deck edge)			{ After Well:— in tonnage well Forward Well:—			
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— see above.						
Additional area where sheer is less than standard.						

## Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners (Angles)	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	32	32	not obtainable after side, wood lined for acc space	30"	not obtainable (wood lined for accommodation)	None	—	8'
Raised Quarter Deck Bulkhead ...	✓	—	—	—	—	—	—	—
Bridge, After Bulkhead ...	32	32	4" x 2 3/4"	30"	✓	Tonnage openings 7'-8 1/2" x 3'-1 1/2"	None	8'
Bridge, Forward Bulkhead ...	—	—	—	—	✓	—	—	—
Forecastle Bulkhead ...	36	36	3" x 3" & 4 1/2" x 3" 6 1/2" x 3" in way of chain cables	24"	✓	None	—	8'
Trunk, Aft ...	—	—	—	—	—	—	—	—
Trunk, Forward ...	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	21" x 30	26	3" x 2 1/2" x 28 Angles	30"	bracketed to beams	2'-7" x 5'-4"	14"	7'-6"
Exposed Machinery Casings on Superstructure Decks Shelter dk ...	21" x 30	26	3" x 2 1/2" x 28 Angles	30"	bracketed to beams	None	—	8'
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	—	—	—	—	—	—	—	—
Deckhouses on Flush Deck Ships ...	—	—	—	—	—	—	—	—

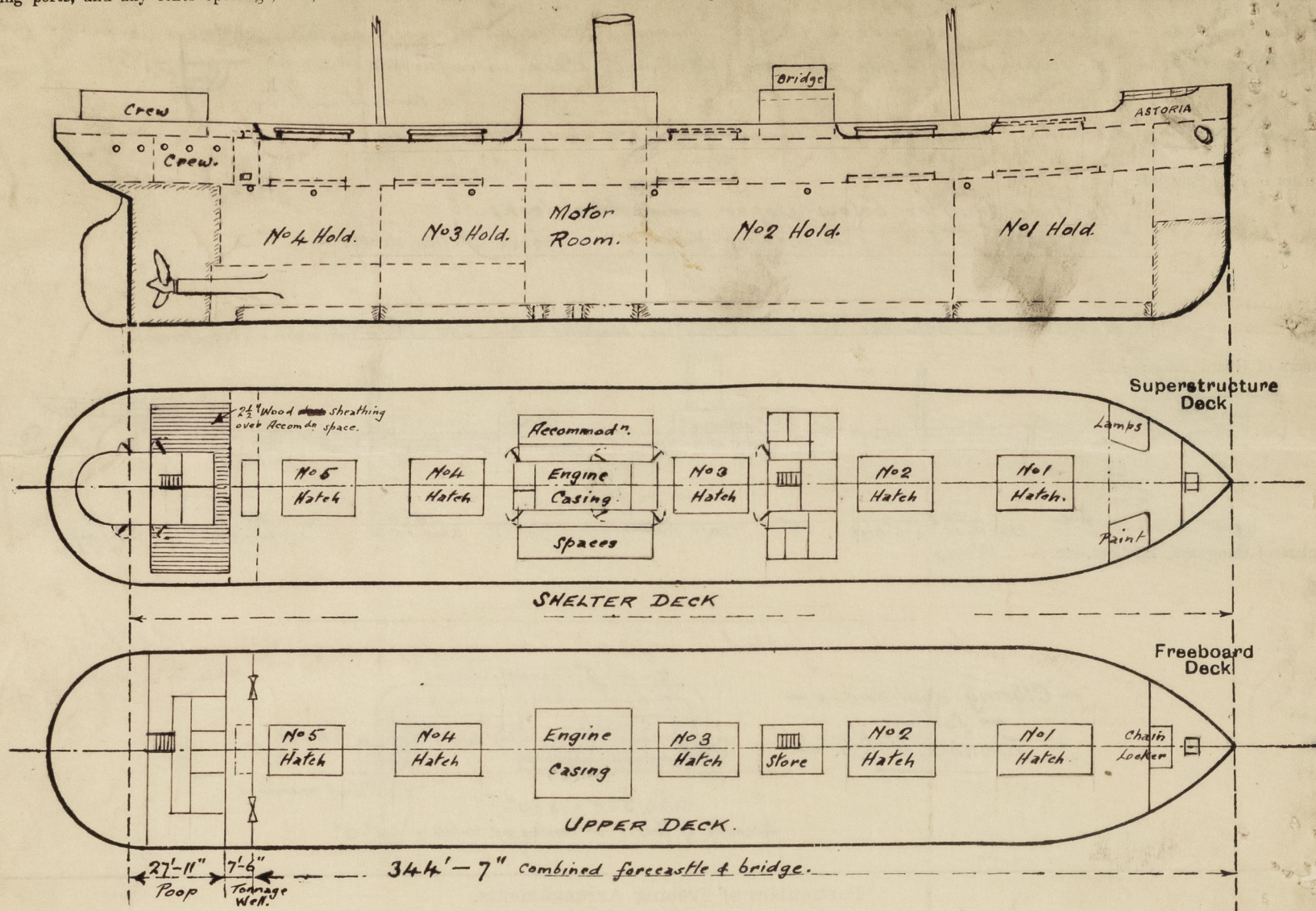
## Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ...	No openings
Raised Quarter Deck Bulkhead ...	No openings
Bridge, After Bulkhead ...	Storm boards in riveted channels 3'-1 1/2" full height of opening
Bridge, Forward Bulkhead ...	Shifting boards, have originally been in 6 1/2" x 3" riveted channels, but after end of channel is now cut away. On the Starb. side these boards not full height, as Telemotor pipes (in casing) extend 13" below deck on inboard side of opening.
Forecastle Bulkhead to Shelter dk ...	No openings
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	No openings
Exposed Machinery Casings on Superstructure Deck ...	No openings
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	No openings
Deckhouses on Flush Deck Ships ...	No openings

Steel deck house around Machy casings — 2 steel doors 2'-6" x 5'-3" at fore end, Sills 16" high with Accomod. spaces, port & starb. 2 teak doors 2'-0" x 5'-3" aft. All capable of manipulation from both sides. Doors to Eng Room, Steel, 2'-7" x 5'-4" in port & starb. alleyways Height of sills 14"



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:—

None.

The Vessel examined in dry dock. Bottom & rudder, decks, hatches, coamings, covers & supports, ventilators, casings, windlass, steering gear & general equipment examined - for the requirements of annual or occasional survey - all the above parts now in good condition.

*[Signature]*

Builder's name and yard number *AKT. Nakskov Skibs, Nakskov.*

Names of sister ships *C/S D/S. Orient.*

Owners *A/S. D/S. Orient.*

Fee £ *16* : *0* : *0*

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