

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for MOTOR Steamer, Sealing Ship, Tanker
having Prop., bridge and forecastle
(Type of Superstructures.)

Port of Survey Hamburg
Date of Survey 2nd 5th Dec. 1939
Name of Surveyor H. Goring

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"SKANDINAVIA"	Norwegian Oslo	-	~10000	1939

Moulded Dimensions: Length 150.87m Breadth 20.42m Depth 10.41m
Moulded displacement at moulded draught = 85 per cent. of moulded depth 21040 tons excl. superstructure
Coefficient of fineness for use with Tables 21062 incl. "

Particulars of Classification +100 A1
"Carrying Petroleum in bulk"
not completed.

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <u>10.41m</u>	(a) Where D is greater than Table depth (D - Table depth) R =	Moulded Breadth (B) <u>20.42m</u>
Stringer plate ... <u>2.5mm</u> ... <u>0.025m</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50}$ =
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>0.41m</u>
Depth for Freeboard (D) =		Difference
		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) =$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poep enclosed ...	<u>37.53</u>		<u>2.44</u>			Standard Height of Superstructure
" overhang ...	<u>pushed</u>					" " R.Q.D.
R.Q.D. enclosed	<u>-</u>					Deduction for complete superstructure
" overhang	<u>-</u>					Percentage covered $\frac{S}{L} =$
Bridge enclosed...	<u>11.68</u>		<u>2.21</u>			" " $\frac{S_1}{L} =$
" overhang aft	<u>0.73</u>					" " $\frac{E}{L} =$
" overhang forward	<u>0.20</u>					Percentage from Table, Line A.
Fore enclosed ...	<u>17.11</u>		<u>2.29</u>			(corrected for absence of forecastle (if required))
" overhang ...	<u>none</u>					Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction =
" " forward						
Total ...						

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...		1			<u>1.468</u>		1		
$\frac{1}{4}$ L from A.P. ...		4			<u>0.683</u>		4		
$\frac{2}{4}$ L " ...		2			<u>0.168</u>		2		
Amidships ...		4			<u>0.000</u>		4		
$\frac{2}{4}$ L from F.P. ...		2			<u>0.340</u>		2		
$\frac{1}{4}$ L " ...		4			<u>1.328</u>		4		
F.P. ...		1			<u>3.020</u>		1		
Total ...									

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

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.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient
Depth to Freeboard Deck =	$\Delta =$	Depth Correction ...
Summer freeboard =	Tons per inch immersion at summer load water line	Deduction for superstructures ...
Moulded draught (d) =	T =	Sheer correction ...
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40 T}$ inches	Round of Beam correction ...
Winter freeboard = $\frac{d}{4}$ inches =		Correction for Thickness of Deck amidships
Addition for Winter North Atlantic Freeboard (if required) =		Other corrections, scantlings, etc. ...
		Summer Freeboard =

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

Tropical Fresh Water Line above Centre of Disc ...	Tropical Fresh Water Freeboard ...
Fresh Water Line " " ...	Fresh Water " " ...
Tropical Line " " ...	Tropical " " ...
Winter Line below " " ...	Winter " " ...
Winter North Atlantic Line " " ...	Winter North Atlantic " " ...

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.											
← ON FREEBOARD DECK →											
← ON FORECASTLE → ON POOP DECK →											
Description of Hatchway	1 ho fore shore	1 ho chain locker	30 ho cargo hatch	5 ho rafter frame	2 ho oil fuel bunker	1 ho fore dry cargo hatch	1 ho fore shore	1 ho fore dry cargo hatch	1 ho provision room	2 ho oil fuel tank	
Dimensions of Hatchway	800 x 600	1900 x 500	1676 x 1068	820 x 400	520 x 480	4800 x 3400	800 x 800	4110 x 5120	1100 x 1020	800 x 600	
COAMINGS	Height above Deck	250	250	815	250	800	815	250	800	500	
	Thickness	10	10	11	10	11	10	10	11	10	
	Sides	10	10	11	10	11	10	10	11	10	
	Stiffeners	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	Brackets, Stays	✓	✓	✓	✓	✓	✓	✓	✓	✓	
HATCH BEAMS	Number										
	Spacing										
	Scantling and Sketch				none						
	Bearing Surface					On 20 x 12 side and end coaming		On 20 x 12 side and end coaming			
FORE AND AFTERS	Number										
	Spacing										
	Unsupported Lengths										
	Scantling* and Sketch				none						
	Bearing Surface					Stiffened by 2 1/2 x 90 side and 3 1/2 x 120 bulbs 240 x 12		Stiffened by 2 1/2 x 90 side and 3 1/2 x 120 bulbs 240 x 12			
HATCH COVERS	Material	Steel 10	Steel 10	Steel 15	Steel 10	Steel 10	Steel 12	Steel 10	Steel 12	Steel 8	
	Thickness	10	10	15	10	10	12	10	12	8	
	How fitted	hinged rubber	hinged bump	hinged bump	hinged bump	hinged bump	hinged rubber	hinged bump	hinged rubber	hinged bump	
	Bearing Surface	packing	packing	packing	packing	packing	packing	packing	packing	packing	
Spacing of Cleats					none						
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? ✓

Particulars of Flush Bunker Scuttles:—

none.

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

On forecabin deck	two	new ventilators	to forward dry cargo hold	375 ^{mm}	inside diam.	coaming	915 ^{mm}	high; 9 ^{mm} thick
"	"	"	"	290 ^{mm}	"	"	915 ^{mm}	" ; 8.5 ^{mm} "
"	"	"	to store room	375 ^{mm}	"	"	915 ^{mm}	" ; 9 ^{mm} "
"	"	"	to fore. pump room	200 ^{mm}	"	"	915 ^{mm}	" ; 8 ^{mm} "
On freeboard deck	two	"	to fore. & after hold	200 ^{mm}	"	"	915 ^{mm}	" ; 8 ^{mm} "

All ventilators are capable of being closed by steel caps and canvas covers.

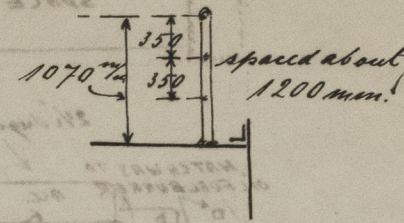
Particulars of Gangway Cargo and Coaling Ports:—

none.

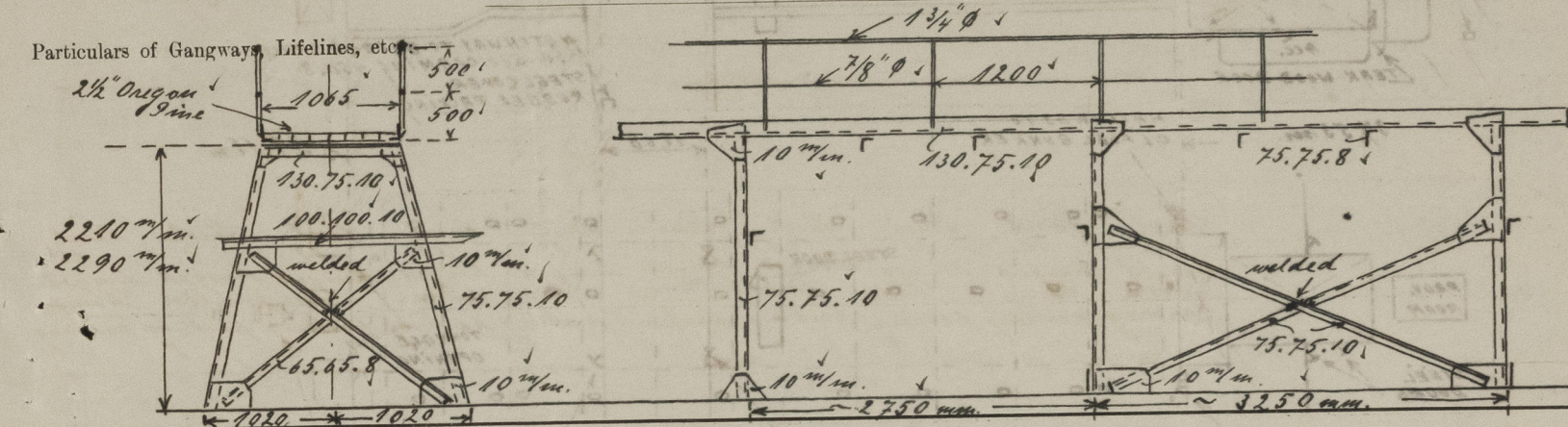
7 scuppers on each side above freeboard deck 120-110 mm.
All sanitary discharge pipes are fitted with storm valves.

Particulars of Guard Rails :—

Open rail on foreboard deck, forecabin and
poop deck.



Particulars of Gangways, Lifelines, etc.



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			<i>Open rail</i>			
Forward Well						

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 :—

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 (at sides) ...	300.12'	11.5'	250.90.12.5	800	bracketed at top & bottom	700.1500	530'	2440'
Raised Quarter Deck Bulkhead ...	"	"	"	"	welded at top & bottom	"	"	"
Bridge, After Bulkhead ...	250.12'	8.0'	130.65.8	700-870	bracketed at bottom	950.1250	590'	2210'
Bridge, Forward Bulkhead ...	250.14'	12-11.5'	250.90.12	700-870	bracketed at top & bottom	700.1500 2. 950.1250	460' 590'	2210' 2290'
Forecastle Bulkhead ...	250.12'	7.5'	100.75.10	730	none	2. 700.1500	460'	2290'
PUMP ROOM HOUSE BULKHEAD MID SHIPS ...	250.10	8.0'	150.75.10	870	bracketed at top and bottom	700.1400	610'	2135'
Trunk, Forward ...	"	"	"	"	"	"	"	"
Exposed Machinery Casings on Free-board on the main deck ...	4. 150.150	"	"	"	bracketed at top & bottom	none	"	2440'
Exposed Machinery Casings on Super-structure Decks ...	1. 14	13.5'	300.90.15	870	top electric welded	700.1500	460'	2440'
Machinery Casings within Superstructures and fitted with Class I Closing Appliances ...	300.8.5	8.0'	130.65.8	750	bracketed at top	700.1650	350'	2440'
Deckhouses on Flush Deck Ships ...	"	"	"	"	"	"	"	"

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

Poop Bulkhead	Two hinged steel doors; rubber packing, capable of being manipulated from both sides.
Raised Quarter Deck Bulkhead	Two bronze openings closed by portable steel plates with 7/8" hose bolts; spaced 300".
Bridge, After Bulkhead	Two hinged steel doors; rubber packing, capable of being manipulated from both sides.
Bridge, Forward Bulkhead	Two bronze openings, closed by portable steel plates with 7/8" hose bolts; spaced 300".
Forecastle Bulkhead	Two hinged steel doors; rubber packing, capable of being manipulated from both sides.
Exposed Machinery Casings on Free-board or Raised Quarter Decks	Two hinged steel doors; rubber packing, capable of being manipulated from both sides.
Exposed Machinery Casings on Superstructure Decks	Two hinged steel doors; rubber packing, capable of being manipulated from both sides.
Machinery Casings within Superstructures	Two hinged steel doors, closed by lock and key only.
Appliances	One hinged steel door, rubber packing, capable of being closed from both sides.
PUMP ROOM	FREE-BOARD		
Dunkhouses on BROADWAY	

The image contains three hand-drawn technical drawings of the USS LST-1163, a Landing Ship, Tank (LST). The drawings are labeled as follows:

- Top View:** Shows the deck layout from above. Key features include:
 - Deck Levels:** POOD DECK, FREEBOARD DECK, and GANGWAY.
 - Structures:** OPEN RAIL, OIL FUEL BUNKER, ENGINE SPACE, DRY CARGO HOLD, and DEEP TANK.
 - Dimensions:** T.10, T.9, T.8, T.7, T.6, T.5, T.4, T.3, T.2, T.1.
 - Other Labels:** A.P. T., COFF. DAK, PUMP-ROOM, and F.P. T.
- Side View:** Shows the profile of the ship. Key features include:
 - Deck Levels:** Superstructure Deck and Freeboard Deck.
 - Dimensions:** 730 mm OVERHANG AT SIDE, 200 mm AT SIDE, 730 mm, 1468, and 1711 mm.
 - Structures:** HATCHWAY TO OIL FUEL BUNKER, HATCHWAY TO BRIDGE SPACE, STEEL DOORS, and RUBBER PACKING.
 - Other Labels:** 2 1/4" Oregon Pine, LEAK WOOD DOOR, and 1460 SILL CORNING 450.8.
- Bottom View:** Shows the hull structure from below. Key features include:
 - Structures:** STEEL DOORS, TONNAGE OPENING, and TRUNK TO PUMP ROOM.
 - Dimensions:** 3753 mm, 1468, and 1711 mm.
 - Other Labels:** PROV. ROOM, STEEL DOOR, and RUBBER PACKING.

State any special features in the construction of the ship:— *Tanker with two longitudinal bulkheads. The vessel has been surveyed during construction on stocks and afloat.*

Displacement (excl. boring) in salt water at 27' draught = 19372 tons; 67.9 tons per inch.
 " " " " " at 28' " = 20180 " ; 68.4 " " "
 " " " " " at 29' " = 20998 " ; 68.9 " " "
 Displacement (incl. boring) in salt water at 27' " = 19394 " ; 67.9 " " "
 " " " " " at 28' " = 20202 " ; 68.4 " " "
 " " " " " at 29' " = 21020 " ; 68.9 " " "

Fee RM. 400.- : Received by me will be charged with First Entry.