

Rpt. C.11.

Index. No. 33757  
(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for <del>Steamer, Sailing Ship, Tanker</del>						Port of Survey <u>Genoa</u>
having <u>Roof and Forecastle</u>						Date of Survey <u>September 1932</u>
(Type of Superstructures.)						Name of Surveyor <u>C. J. Lowmshend &amp; J. Rumpf</u>
Ship's Name <b>"NORDEN"</b>	Nationality and Port of Registry <u>Norwegian</u> <u>Bergen</u>	Official Number <u>✓</u>	Gross Tonnage <u>8440</u>	Date of Build <u>1931-3</u>	Particulars of Classification <u>+ 100 A.1.</u> <u>Carrying Petroleum in Bulk.</u>	
Moulded Dimensions: Length <u>461.64'</u> Breadth <u>59.5'</u> Depth <u>35'-0"</u>						
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>18827</u> tons						
Coefficient of fineness for use with Tables <u>.806</u> ✓						

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth ...	<u>35'-0"</u>	(a) Where D is greater than Table depth (D-Table depth) R = $(35.08 - 30.77) \times 3 = +12.93$	✓	Moulded Breadth (B) <u>59'-6"</u>	
Stringer plate ...	<u>+.08</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Standard Round of Beam = $\frac{B \times 12}{50} = 14.28$	
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$				Ship's Round of Beam = <u>14.17</u> ✓	
Depth for Freeboard (D) =	<u>35.08</u> ✓	If restricted by superstructures		Difference <u>Deficient .11</u>	
				Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.11}{4} \times .7056 = +.02$	

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>108'-1"</u>	<u>108.08</u>	<u>8'-0"</u>		<u>108.08</u>	Standard Height of Superstructure <u>7.5</u> ✓
" overhang ...	✓					" " R.Q.D.
R.Q.D. enclosed ...						Deduction for complete superstructure <u>42.0</u> ✓
" overhang ...						Percentage covered $\frac{S}{L} = 32.14$ ✓
Bridge enclosed ...						" " $\frac{S_1}{L} = 29.42$
" overhang aft ...						" " $\frac{E}{L} = 29.42$ ✓
" overhang forward ...						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
File enclosed <u>Open</u> ...	<u>40'-3 3/4"</u>	<u>27.75</u>	<u>8'-0"</u>		<u>27.75</u>	Percentage from Table, Line B. <u>20.59</u> (corrected for absence of forecastle (if required))
" overhang ...						Interpolation for bridge less than 2L (if required)
Bank aft ...						Deduction = $42.0 \times .2059 = 8.65$
forward ...						
Deck opening aft ...						
" forward ...						
Total ...	<u>148.39</u>	<u>135.83</u>			<u>135.83</u>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>56.16</u>	1		<u>56.16</u>	<u>38.38</u>	<u>38.38</u>	1		<u>38.38</u>	Mean actual sheer aft = <u>Deficient</u>
1/4 L from A.P. ...	<u>24.99</u>	4		<u>99.96</u>	<u>16.10</u>	<u>16.10</u>	4		<u>64.40</u>	Mean actual sheer forward = <u>Deficient</u>
1/2 L " ...	<u>6.18</u>	2		<u>12.36</u>	<u>4.02</u>	<u>4.02</u>	2		<u>8.04</u>	Mean standard sheer forward
Amidships ...	<u>-</u>	4					4			Length of enclosed superstructure forward of amidships =
3/4 L from F.P. ...	<u>12.36</u>	2		<u>24.72</u>	<u>8.69</u>	<u>8.69</u>	2		<u>17.38</u>	" " aft of " =
1/4 L " ...	<u>34.76</u>	4		<u>139.04</u>	<u>34.76</u>	<u>34.76</u>	4		<u>139.04</u>	
F.P. ...	<u>112.32</u>	1		<u>112.32</u>	<u>75.75</u>	<u>75.75</u>	1		<u>75.75</u>	
Total ...				<u>505.44</u>					<u>342.99</u>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{162.45}{18} \left( .75 - \frac{.1607}{.5893} \right) = +5.32$  ✓

If limited on account of midship superstructure.

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

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	78.11
Addition for Winter and Winter North Atlantic Freeboard.		Correction for coefficient $\frac{.806 + .68}{1.36} = 1.486$	85.34
Depth to Freeboard Deck = <u>35.08</u>	Displacement in salt water at summer load water line $\Delta = 17155$	Depth Correction ...	12.93
Summer freeboard = <u>7.92</u>	Tons per inch immersion at summer load water line $T = 56.85$	Deduction for superstructures ...	8.65
Moulded draught (d) = <u>27.16</u>	Deduction = $\frac{\Delta}{40T}$ inches = <u>7.54</u> ✓	Sheer correction ...	5.32
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.79</u> ✓		Round of Beam correction ...	.02
Addition for Winter North Atlantic Freeboard (if required) = <u>4.62</u> ✓		Correction for Thickness of Deck amidships ...	
		Other corrections, scantlings, etc. ...	
		18.27	8.65
		Summer Freeboard = <u>94.96</u>	

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

Tropical Fresh Water Line above Centre of Disc ...	<u>1 1/4</u> = <u>36.2</u>	Tropical Fresh Water Freeboard ...	<u>6 - 8 3/4</u> = <u>2051</u>
Fresh Water Line " " ...	<u>7 1/2</u> = <u>191</u>	Fresh Water " " ...	<u>7 - 3 1/2</u> = <u>2222</u>
Tropical Line " " ...	<u>6 3/4</u> = <u>171</u>	Tropical " " ...	<u>7 - 4 1/4</u> = <u>2342</u>
Winter Line below " " ...	<u>6 3/4</u> = <u>171</u>	Winter " " ...	<u>8 - 5 3/4</u> = <u>2584</u>
Winter North Atlantic Line " " ...	<u>11 1/4</u> = <u>285</u>	Winter North Atlantic " " ...	<u>8 - 10 1/4</u> = <u>2698</u>

MAR 1938

MAR 1938

1909 Norwegian  
Hos. assigned



Norden.

## CKS

A yellowed, rectangular piece of paper, likely a flyleaf or endpaper, showing signs of aging and wear. It is placed on a white background with a black grid pattern. The paper has a slightly irregular shape and some faint, dark spots or stains, particularly along the right edge. The grid lines are thin and black, forming a simple coordinate system.

No. 6644 (motor ship) Engine room ventilator in efficient condition. Engine skylight of steel strongly constructed.

none

none

Freeboard Deck At forward end to  
the coamings 36" x .40" To Pump room  
36" x .40"

[illegible]

To E.R. staff accommodation in Post phase 7 @ 7" dia. with coarn. 27'x32'  
all ventilators fitted with wood plugs & canvas covers.  
9-8x3 1/2' coar. iron oval vents on Post Deck to exhaust under Treaboard Deck  
Openings 14" high & fitted with steel hinged flaps.

2 P.I. pipes on Foreboard Deck 20' high x 4" dia from fore dept tank.  
 2 " " " " " " x 3 1/2 " " fore peak tank  
 2 " " " " " " x 4 " " fore deck tank  
 2 " " " " " " x 2 1/2 " " forward cofferdam  
 1 " " " " " " " " aft  
 1 " " " " " " 22' x 3 1/2 " " F.W. tank, aft head of D.B. tank  
 1 all air pipes from P.F. spaces have a flange fixed with a perforated plate.  
 " " " " " " " " means of closing.  
 " " " " " " " " covers covers for closing air pipes

more

Below Fruboard Deck From 1000 are  
two 3 1/2 dia. and four 2 1/2 dia. from  
cine spaces, all fitted with stemvalves.  
Discharge pipes from Officers quarters in Bridge  
Deck above Fruboard Deck.

Under Foreboard Deck aft 11" dia. with hinged deadlight.  
lower edge 4'-0" under foreboard deck.

Boop sides 11" dia. with deadlights.

Forecastle Deck	3'-8" high,	1 1/2" stanchion spaced	4'-0",	1 1/2" rail + 2 - 7/8" rods.
Freeboard	3'-8"	"	"	"
Bridge	"	"	"	"
Boop	3'-11"	"	"	1 3/4"

8. —

Hand-drawn sketch of a 10-foot high electrical tower. The tower has a total height of 10'-0" and a base width of 5'-3". It features a central cross-brace structure. Key components labeled include:

- 4x4x4x4 steel for the top raft.
- 3x5x1/2 inch plates for the top cross-brace.
- 3x5x3/8 inch plates for the lower cross-brace.
- 6x6x1/5 riveted deck for the base.
- spaced 10'-0" vertical members.
- All joints are marked with 'W' for electrically welded.

Gangway, as per sketched,  
from Roof to Bridge,  
& Bridge to Fore-castle.

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 ... ..						
Forward Well ... ..			none			

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 :—

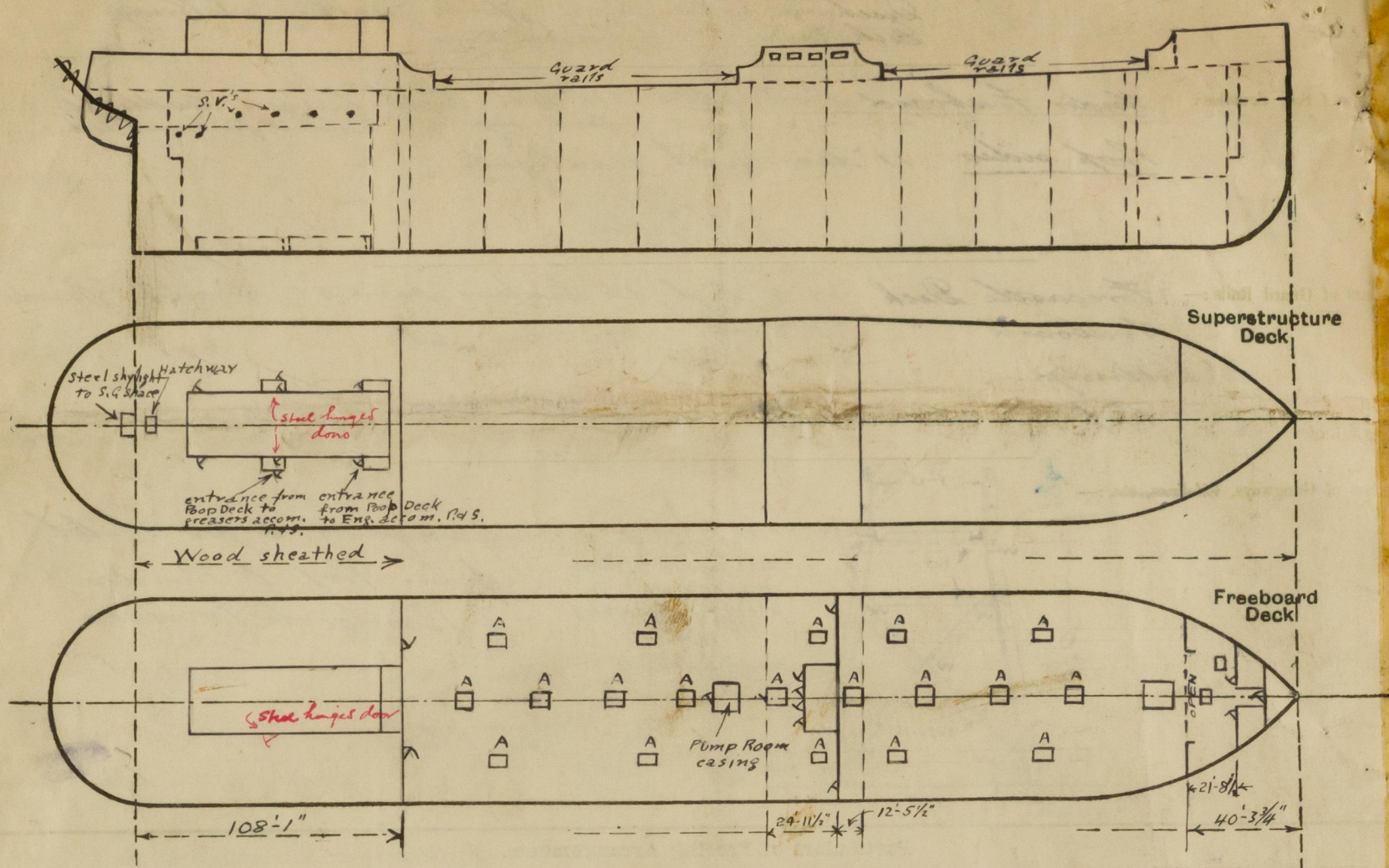
Additional area where sheer is less than standard.

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 ... ..	9" x 1/2"	.42	9 x 3 1/4 x 1/2 J	27"	3ht. top & bottom	5'-3" x 3'-3 1/2"	16"	8'-0"
Reinforced Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ... ..	9" x 1/2"	.38	8 x 3 x .38 J	25"	3ht. top & bottom	5'-3" x 2'-4"	16"	8'-0"
Bridge, Forward Bulkhead ... ..								
Forecastle Bulkhead ... ..	7' x .38"	.25	3 1/2 x 2 x .25	28"	none	5'-0" x 2'-3"	16"	8'-0"
Trunk Aft ... ..								
Trunk Forward ... ..								
Exposed Machinery Casings on Free-board or Reinforced Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks (Poop Deck) ...	9 x .36	.32	5 1/2 x 3 x .36 L } alternately 28 1/2"		Brackets at top continuous at bottom	5'-2" x 2'-4"	14"	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..								
Superstructure Entrance Deck doors on Flush Deck Ships ...	✓	.36	5 1/2 x 3 x .36 L	30"	Brackets at top lugs at bottom	5'-3" x 2'-4"	15"	

	Particulars of Closing Appliances (state if capable of being manipulated from both sides).
Poop Bulkhead ... ..	2 hinged <sup>W.T.</sup> steel doors, capable of being manipulated from both sides.
Aft Quarter Deck Bulkhead ... ..	
Bridge, after Bulkhead ... ..	2 hinged steel doors, capable of being manipulated from both sides.
Forward Bulkhead ... ..	
Forecastle Bulkhead ... ..	1 hinged steel door, capable of being manipulated from both sides.
Machinery Casings on Freeboard or Raised Quarter Decks ... ..	" " " " " "
Machinery Casings on Superstructure Decks (Peep Deck) ... ..	1 hinged wood (parallel) <sup>inter.</sup> doors " " " "
Machinery Casings within Superstructure not fitted with Class I Closing Appliances ... ..	also steel hinged inner doors " " " "
Deck Hatchways ... ..	
Deck Hatchways on Flush Deck Ships ... ..	One hinges steel door capable of being manipulated from both sides.



Superstructure bulkheads, ~~tanks~~, deckhouses, casings, cargo ~~and~~ ~~cooling~~ hatchways, extent and thickness of sheathing on the freeboard deck, ~~gangway~~, ~~casings~~ and ~~cooling ports~~, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



Hatchways marked A are the oiltight hatchways to the cargo tanks.

Officers are berthed on the Bridge Deck, and Engineers & <sup>seamen</sup> ~~grasers~~ in the ~~Pop~~ space.

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

Externally, above the light load line, the vessel was in good condition.

The ship was seen afloat only, and no part of a special survey was carried out.

The following freeboards were obtained from the freeboard certificate on board issued by the *Stolske Veritas*.

F.W. 8'-8"  
T. 8'-8 1/2"  
S. 9'-2 1/2"  
W. 9'-9"  
B.O.T. 9'-2 1/2"

The following were taken from scales on board.

	Displacement	Tons per inch
28'	17600 tons	57.1
27'	16900 "	56.7
26'	16220 "	56.4
25'	15550 "	56.1

Builder's name and yard number

Deutsche Werft A.G. Bet. Finkenurder, Hamburg. N° 1

Names of sister ships

Owners

Skibs A/S "NORDEN" (H. Munk)

Fee £ 2250

Received by me

Less 100



© 2020

Lloyd's Register Foundation