

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. **18090**  
(For London Office only.)

16 JUN 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Raised Quarter Deck and short Bridge.

(Type of Superstructures.)

Ship's Name <b>"JERNLAND"</b>	Nationality and Port of Registry <b>NORWEGIAN BERGEN.</b>	Official Number <b>1289.</b>	Gross Tonnage <b>1905.</b>	Date of Build <b>1905.</b>
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Moulded Dimensions: Length 234.7 ft. Breadth 33.5 ft. Depth 17'-3 1/2" ✓

Moulded displacement at moulded draught = 85 per cent. of moulded depth \_\_\_\_\_ tons

Coefficient of fineness for use with Tables .815

Port of Survey Bergen

Date of Survey 10th and 11th. June 1932.

Name of Surveyor I. A. Eide jr.

Particulars of Classification L.R. +100A1.

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth ...	17'-3 1/2" ✓	(a) Where D is greater than Table depth (D-Table depth) R = <u>(17.33 - 15.65) 1.805 = + 3.03" ✓</u>		Moulded Breadth (B)	33.5' ✓
Stringer plate ...	+ 0.04" ✓	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓		Standard Round of Beam = $\frac{B \times 12}{50}$	= 8.04" ✓
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	✓			Ship's Round of Beam	= 8 1/4" ✓
Depth for Freeboard (D) =	17.33 ✓	If restricted by superstructures ✓		Difference	.21 ✓
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	= $\frac{.21}{4} \times .328 = -.02$ ✓

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						Standard Height of Superstructure <u>6.00</u> ✓
„ overhang ...						„ „ R.Q.D. <u>3.897</u> ✓
R.Q.D. enclosed ...	123.30	123.30	3'-6"	$\times \frac{3.897}{3.0}$	110.74	Deduction for complete superstructure <u>29.47</u> ✓
„ overhang ...						Percentage covered $\frac{S}{L} = 67.57\%$ ✓
Bridge enclosed ...	9.50	9.50	7'-0"	/	9.50	„ „ $\frac{S_1}{L} = 67.20\%$ ✓
„ overhang aft ...	8.42					„ „ $\frac{E}{L} = 61.84\%$ ✓
„ overhang forward ...	9.42	.40		/	.40	Percentage from Table, Line A. <u>49.13%</u> ✓
Fore-castle ...	24.00	24.00	7'-0"	/	24.00	(corrected for absence of forecastle (if required))
„ overhang ...	1.00	.50		/	.50	Percentage from Table, Line B.
„ forward ...						(corrected for absence of forecastle (if required))
Tonnage opening aft ...						Interpolation for bridge less than .2L (if required) ✓
„ forward ...						Deduction = <u>29.47 + 49.13 = - 14.48</u> ✓
Total ...	158.59	157.70			145.14	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	33.47	1		33.47	39"	39.00	1		39.00	Mean actual sheer aft = <u>excess</u>
1/2 L from A.P. ...	14.90	4		59.60	18 3/16"	18.17	4		72.68	Mean actual sheer forward = <u>excess</u>
1/4 L ...	7.36	2		14.72	11"	10.27	2		20.54	Mean standard sheer forward
Midship ...	0.	4		0.			4		0.	Length of enclosed superstructure forward of amidships = <u>.0658</u>
1/4 L from M.P. ...	7.36	2		14.72	11"	10.27	2		20.54	„ „ aft of „ = <u>.50</u>
1/2 L ...	29.79	4		119.16	41"	41.08	4		164.32	
M.P. ...	66.94	1		66.94	84"	84.00	1		84.00	
Total ...	23			301.26					389.62	

Corrected =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{88.37}{18} \times (.75 - .3378) = - 2.02$

If limited on account of midship superstructure.  $- 2.02 \times \frac{.0658}{.20} = - 1.67$

If limited to maximum allowance of 1 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 = <u>20.83</u> Summer freeboard = <u>5.09</u> Moulded draught (d) = <u>15.74</u> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>3.93</u> 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 $T = 16 \frac{1}{2}$ Deduction = $\frac{\Delta}{40 T}$ inches =	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient $\frac{.815 + .68}{1.36} = \frac{1.495}{1.36}$ <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td>3.03</td> <td>✓</td> </tr> <tr> <td>Deduction for superstructures</td> <td>14.48</td> <td>✓</td> </tr> <tr> <td>Sheer correction</td> <td>1.67</td> <td>✓</td> </tr> <tr> <td>Round of Beam correction</td> <td>.02</td> <td>✓</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>42.00</td> <td>✓</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>✓</td> <td>✓</td> </tr> <tr> <td><b>Summer Freeboard</b></td> <td><b>61.12</b></td> <td></td> </tr> </table>		+	-	Depth Correction	3.03	✓	Deduction for superstructures	14.48	✓	Sheer correction	1.67	✓	Round of Beam correction	.02	✓	Correction for Thickness of Deck amidships	42.00	✓	Other corrections, scantlings, etc.	✓	✓	<b>Summer Freeboard</b>	<b>61.12</b>	
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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 „ „ ...	



### PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway			No. 1.	No. 2.	No. 3.	No. 4.				
Dimensions of Hatchway			25'-6" x 21'-0"	35'-0" x 21'-0"	27'-5" x 20'-6"	25'-5" x 20'-6"				
COAMINGS	{	Height above Deck	39" ✓	39" ✓	39" ✓	39" ✓				
		Thickness { Sides								
		{ Ends								
		Stiffeners ... sides only	8" x 3" x .505 ✓	8" x 3" x .505 ✓	7 1/4" x 3" x .505 ✓	7 1/4" x 3" x .505 ✓				
Brackets, Stays		None ✓	None ✓	None ✓	None ✓					
HATCH BEAMS	{	Number	4 ✓	6 ✓	5 ✓	4 ✓				
		Spacing	61" ✓	60" ✓	55" ✓	61" ✓				
		Scantling and Sketch	7" 4 angles 4" x 3" x .46" ✓ Plate 18 1/2" x 36" steel ✓ Alternate plate 2 1/2" lighter ✓ 8.36" ✓	Same as No. 1. ✓	Same as No. 1. ✓	Same as No. 1. ✓				
		Bearing Surface	8.36" ✓	8.36" ✓	8.36" ✓	8.36" ✓				
FORE AND AFTERS	{	Number								
		Spacing								
		Unsupported Lengths								
		Scantling* and Sketch	None fitted. ✓	None fitted. ✓	None fitted. ✓	None fitted. ✓				
Bearing Surface										
HATCH COVERS	{	Material	PINE & PITCH PINE ✓	PINE & PITCH PINE ✓	PINE & PITCH PINE ✓	PINE & PITCH PINE ✓				
		Thickness	3" ✓	3" ✓	3" ✓	3" ✓				
		How fitted	FORE & AFT ✓	FORE & AFT ✓	FORE AND AFT ✓	FORE & AFT ✓				
		Bearing Surface	3" ✓	3" ✓	3" ✓	3" ✓				
Spacing of Cleats			23" ✓	23" ✓	23" ✓	23" ✓				
Number of Tarpaulins			3 ✓	3 ✓	3 ✓	3 ✓				
*Are wood fore and afters steel shod at all bearing surfaces? No wood fore and afters. ✓										
Are battens and wedges efficient and in good condition? Yes. ✓										
Are tarpaulins in good condition and in accordance with rule requirements? Yes. ✓										
Are lashings provided in accordance with rule requirements? Yes. Lashing for 3 platings on No. 1, 2 & 4 Hatchway and 4 on No. 2 in addition to lashings on 1. Platings 1/8" thick in and out middle. ✓										

Particulars of fiddle, funnel and ventilator coverings:— Fiddle and funnel coverings strong and efficient.  
Steel covers fitted for fiddle openings! ✓

Particulars of Flush Bunker Scuttles:—

No flush Bunker Scuttles fitted. ✓

Particulars of Companionways :—

No companion ways fitted. ✓

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :— One ventilator coaming on fore-castle deck 23" high.  
One ventilator coaming between No 2 hatchway and bridge front 19" high ✓ above hatchway extension.  
One — " — " — after end of engine casing and No. 3 hatchway 36" high. ✓  
One — " — " — " — " — No 4 hatchway — deckhouse 36" — " — ✓

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

Airpipe port and St.B. on R. 2<sup>nd</sup> P. abreast mast 34 1/2" above deck at bulwark. ✓  
 Airpipe to aftpeak tank at after end of deck 10" above deck. ✓  
 Airpipe port and St.B. abreast No. 1 mast 33 1/2" above deck. ✓

Particulars of Gangway Cargo and Coaling Ports:—

None fitted. ✓

Particulars of Scuppers and Sanitary Discharge Pipes —  
 W.C. discharge 5<sup>th</sup> B. amidships 14" below Raised Quarter deck. This discharge is from sidehouse on  
 Raised Quarter deck and goes through bunkerspace. Ordinary flapvalve at shipside. ✓  
 W.C. discharge port side amidships 5'-0" below Raised Quarter Deck. This discharge is from bridgespace  
 and goes through hold. Ordinary flapvalve at shipside. ✓

Particulars of Side Scuttles :

No sidescuttles below maindeck. No deadlights fitted on sidescuttles on bridgefront and after bulkhead of bridge.

Particulars of Guard Rails :—

Guardrails only on forecastle deck and after end of bridge port and st.B

Particulars of Gangways, Lifelines, etc. :—

Langway fitted between No 1 & 2 Hatchway port side and lifeline fitted from bridge to forecathle on port side of hatchway.

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 ... ..	123.3 ft to A.P.	43"	3 = ff 54" x 18" 1 " 27" x 18"	4	23.7 sq. ft	24.6 sq. ft.
Forward Well ... ..	78.7" 77.9	45 1/4"	48" x 16"	3.	16 sq. ft.	15.58 16 sq. ft.

State position of each freeing port ... .. } After Well:— 8'8", 4'2.3", 78'0" & 109'1-0" aft of after end of bridge.  
(F. and A. position and height above deck edge) } Forward Well:— 10'6", 44'0" & 68'6" — " forecastle bulkhead.

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— all fitted with one bar and No. 2 spring port on R.A.D. fitted with shutter and bar.

Additional area where sheer is less than standard.

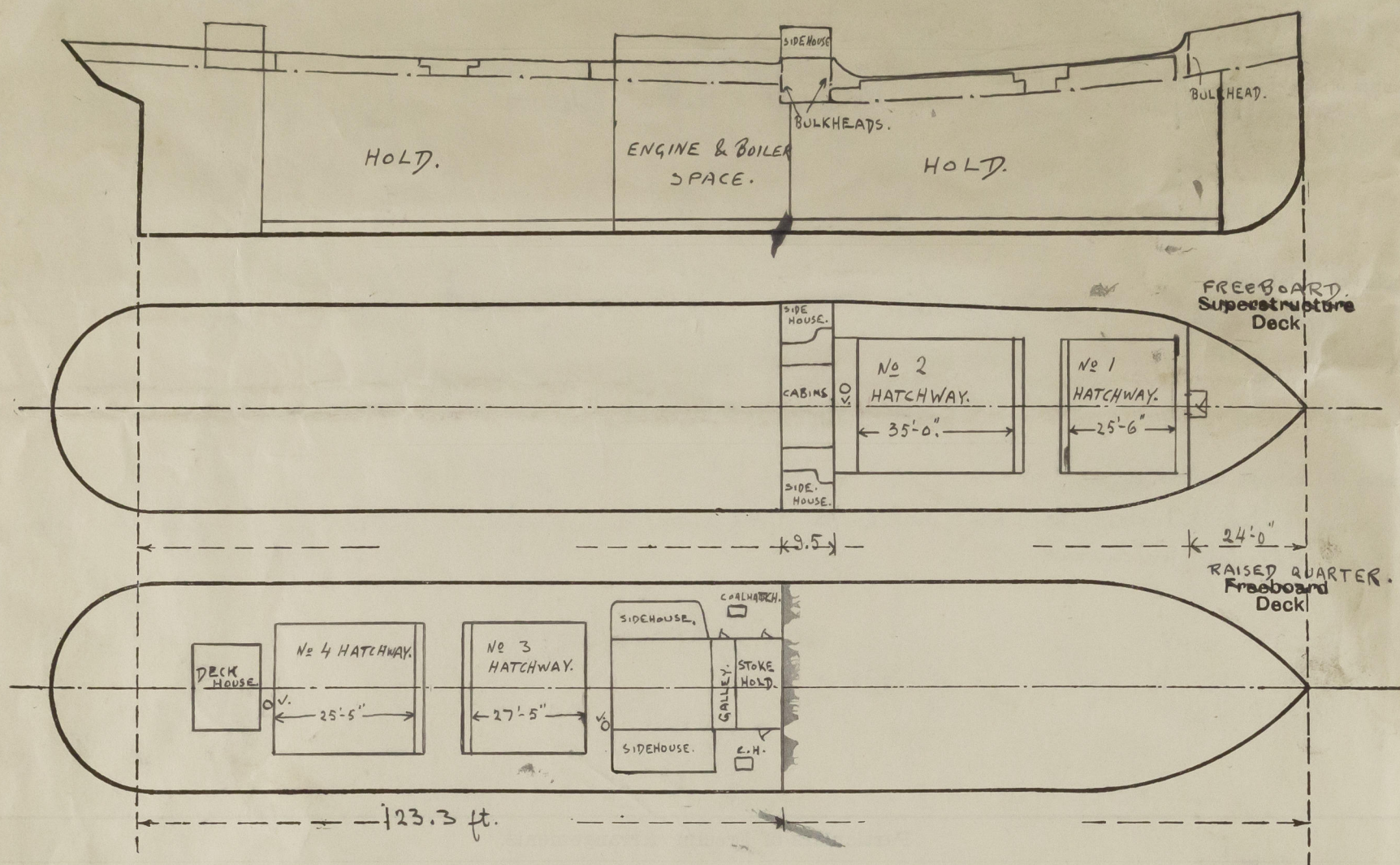
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..				?				
Raised Quarter Deck Bulkhead ...				?				
Bridge, After Bulkhead ... ..								
Bridge, Forward Bulkhead ... ..	7/20" ✓	6/20" ✓	6" x 3" x 9/20" ✓	30" ✓	3/20" brackets	None. ✓		
Forecastle Bulkhead ... ..		6/20" ✓						
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	8/20" ✓	6/20" ✓	3 x 3 x 6/20" ✓	30" ✓		21" x 49" ✓ 22" x 58" ✓	20" ✓ 26" ✓	7'-3" ✓
Exposed Machinery Casings on Superstructure Decks ... ..								
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	...	...	...	
Raised Quarter Deck Bulkhead	...			No openings. ✓
Bridge, After Bulkhead	...	...	...	" " " ✓
Bridge, Forward Bulkhead	...	...	...	" " " ✓
Forecastle Bulkhead	...	...	...	Ordinary wooden door on middle line 44" forward of bulkhead. ✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks	...	...	...	Ordinary shutters on steel doors. The shutters can be manipulated from both sides. ✓
Exposed Machinery Casings on Super-structure Decks	...	...	...	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	...	
Deckhouses on Flush Deck Ships	...	...	...	



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:— at after end No 1 & 3 Hatchway and forward end No 2 & 4 Hatchway the sidescoamings extend 39" and 18" high forming a trunk at after end of No 2 Hatchway sidescoamings extend to bridgefront 24" high forming a trunk otherwise no special features. ✓  
 Owners desire 1906 rules to be used if new Rules give greater freeboard. ✓

Bergen 13th June 1932  
 L. A. Eide

*Afloat in dry dock?*

Builder's name and yard number Osbourne Graham & Co. Sunderland, No. 126.

Names of sister ships \_\_\_\_\_

Owners Halvorsen Shipping Co A/s. Ltd. Bergen.

Fee £180.-  
 To be charged when new freeboard is verified.

Received by me \_\_\_\_\_



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