

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. **30210**
(For London Office only.)

23 AUG 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Forecastle and poop.Port of Survey Stavanger.

(Type of Superstructures.)

Date of Survey 10th. August 1932.

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

M.S. "HVITSKJÆL"NORWEGIAN.
OSLO.150.1921.Name of Surveyor J. A. Bide jr.Moulded Dimensions: Length 98'-9" Breadth 17'-11 1/4" Depth 9'-0"Moulded displacement at moulded draught = 85 per cent. of moulded depth 265 Tons. tonsCoefficient of fineness for use with Tables .69. .682Particulars of Classification L.R. ✓S.S. No 2-29Carrying set in bulk.

Depth for Freeboard (D)				
Moulded depth	...	...	...	<u>9'-0"</u>
Stringer plate	...	...	...	<u>1/4"</u>
Sheathing on exposed deck	...	...	...	<u>.02</u>
$T \left(\frac{L-S}{L} \right) =$				
Depth for Freeboard (D) = <u>9.02</u>				

Depth correction	
(a) Where D is greater than Table depth (D - Table depth) R =	$(9.02 - 6.56) \cdot 7596 = + 1.85$
(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	2.44

If restricted by superstructures

Round of Beam correction	
Moulded Breadth (B)	<u>17'-11 1/4" = 18.0'</u>
Standard Round of Beam = $\frac{B \times 12}{50}$	<u>4.32</u>
Ship's Round of Beam	<u>4 1/2" =</u>
Difference	<u>Even</u> <u>.18</u>
Restricted to	
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$= \frac{.18}{4} \times .6249 = -.03$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...	<u>28'-9"</u>	<u>28.75</u>	<u>36"</u>		<u>28.75</u>
" overhang ...	✓				
Bridge enclosed ...					
" overhang aft ...					
" overhang forward					
F'cle enclosed ...	<u>16'-7"</u>	<u>16.58</u>	<u>36"</u>	<u>3/8</u>	<u>8.29</u>
" overhang ...	✓				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	<u>45.33</u>	<u>45.33</u>			<u>37.04</u>

Standard Height of Superstructure	<u>6.0</u>
" " R.Q.D.	<u>3.0</u>
Deduction for complete superstructure	<u>9.875</u>
Percentage covered $\frac{S}{L} =$	<u>45.90</u>
" " $\frac{S_1}{L} =$	<u>37.51</u>
" " $\frac{E}{L} =$	<u>37.51</u>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	<u>21.371</u>
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required)	
Deduction =	<u>- 2.11</u>

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
P. ...	<u>19.87</u>	1	<u>19.87</u>	<u>1'-2 3/4"</u>	<u>14.75</u>	1	<u>14.75</u>
from A.P. ...	<u>8.84</u>	4	<u>35.36</u>	<u>5 1/2"</u>	<u>5.53</u>	4	<u>22.12</u>
" ...	<u>2.18</u>	2	<u>4.36</u>	<u>1"</u>	<u>1.38</u>	2	<u>2.76</u>
midships ...		4		<u>0"</u>		4	
from F.P. ...	<u>4.37</u>	2	<u>8.74</u>	<u>6 3/4"</u>	<u>5.13</u>	2	<u>9.78</u>
" ...	<u>17.69</u>	4	<u>70.76</u>	<u>1'-9"</u>	<u>20.54</u>	4	<u>78.52</u>
" ...	<u>39.75</u>	1	<u>39.75</u>	<u>3'-7"</u>	<u>43.0</u>	1	<u>41.96</u>
Total ...			<u>178.84</u>				<u>169.89</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{8.95}{18} \left(.75 - \frac{22.95}{178} \right) = + .26$

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 = 9.02

Summer freeboard =

Moulded draught (d) =

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ 304 Tons.

Tons per inch immersion at summer load water line

 $T =$ 3.8Deduction = $\frac{\Delta}{40T}$ inches =

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.682 + .68}{1.36} = \frac{1.362}{1.36}$

	+	-
Depth Correction	<u>1.85</u>	
Deduction for superstructures		<u>2.11</u>
Sheer correction	<u>.26</u>	
Round of Beam correction		<u>.03</u>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	<u>2.11</u>	<u>2.14</u>

Summer Freeboard = 9.86

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	below
Winter North Atlantic Line	"

Tropical Fresh Water Freeboard	...
Fresh Water	"
Tropical	"
Winter	"
Winter North Atlantic	"

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway			ON FORECASTLE ON UPPER DECK TO FOREPEAK TO FOREHEAD.						
Dimensions of Hatchway			22 1/2" x 19 1/2"	27 1/2" x 22 1/4"					
COAMINGS	{	Height above Deck	24"	23 3/4"	Decks	upper Decks			
		Thickness { Sides	30"	30"					
		{ Ends	30"	30"					
		Stiffeners	None	None					
		Brackets, Stays	None	None					
HATCH BEAMS	{	Number	None	None	on upper Decks	cofferdams on			
		Spacing							
		Scantling and Sketch							
		Bearing Surface							
FORE AND AFTERS	{	Number	None	None	to main tanks on upper Decks.	bunkers and			
		Spacing							
		Unsupported Lengths							
		Scantling* and Sketch							
		Bearing Surface							
HATCH COVERS	{	Material	PINE.	PINE	Hatches to main tanks on upper Decks.	Hatches to bunkers and cofferdams on upper Decks.			
		Thickness	1 1/8"	1 7/8"					
		How fitted	F. & A.	F. & A.					
		Bearing Surface	1 3/4"	1 3/4"					
Spacing of Cleats			12"-14"	13"-17"					
Number of Tarpaulins			2.	2.					
*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? ✓									

Particulars of fiddle, funnel and ventilator coamings:— Funnel and ventilator coamings on top of casing 6'-10" above Raised Quarter Deck in good condition. Fiddle openings closed by hinged steel covers.

Particulars of Flush Bunker Scuttles:—

None fitted.

Particulars of Companionways:— One to crewspace at after end of forecastle. 71" high above upper Deck. x 32" broad x 30" fore and aft. x 20" plating. Woodwork on same. Opening 23" x 48". Sill 20". One to pumproom 60" high x 30" broad x 33 1/2" fore and aft. x 20" plating. Hinged steel door. Opening 25 1/2" x 40 1/4" x 17 1/2" sill. Door secured with butterfly nuts 22" apart.

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

On Forecastle Deck:— 2 mushroom ventilators to crewspace 6" x 7 1/2" x 20". 4 1/2" x 7" x 20".

On Upper Deck:— 1 - 6 3/4" x 27" x 20" to cargo hold. 1 - 7" x 43" x 26" to pumproom.

On Raised Quarter Deck:— 1 - 6" x 32" x 30" to store aft.

efficient means of closing provided

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

1 gooseneck just abaft forecastle 23" above deck to forepeak. 1 - " each side forward to cofferdam 7" above deck. 1 - " on top of trunk to No 2 & 3 tanks. 13" above top of trunk. 1 - " each side to bunkers 48" above deck fastened to Raised Quarter Deck bulkhead with clips. 1 - " to No 1 tank 56 3/4" above deck.

efficient means of closing provided

Particulars of Gangway Cargo and Coaling Ports:—

None fitted.

Particulars of Scuppers and Sanitary Discharge Pipes — 6 ft. below upper Deck. Flapvalve fitted. 1. W.C. discharge P.S. forward steel pipe. 33" aft. 2. scuppers each side from Raised Quarter Deck. Discharges above upper Deck. 15" below upper Deck.

Particulars of Side Scuttles: Deadlights fitted to side scuttles forward.

Particulars of Guard Rails:— On forecastle deck 36" high. 3 rods. 57"-60" apart. Bulwarks on Raised Quarter Deck 35 3/4" high.

Particulars of Gangways, Lifelines, etc.:—

None fitted Crew berthed forward.

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	53'-4 1/2"	35 1/4"	29 1/4" x 18"	2.	7.35 sq. ft.	12 sq. ft.
State position of each freeing port (F. and A. position and height above deck edge) { After Well:— 36" and 13'-7" forward of Raised Quarter Deck bulkhead. 10" above Deck. State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Hinged shutters. 1 rod.						
Additional area where sheer is less than standard.						

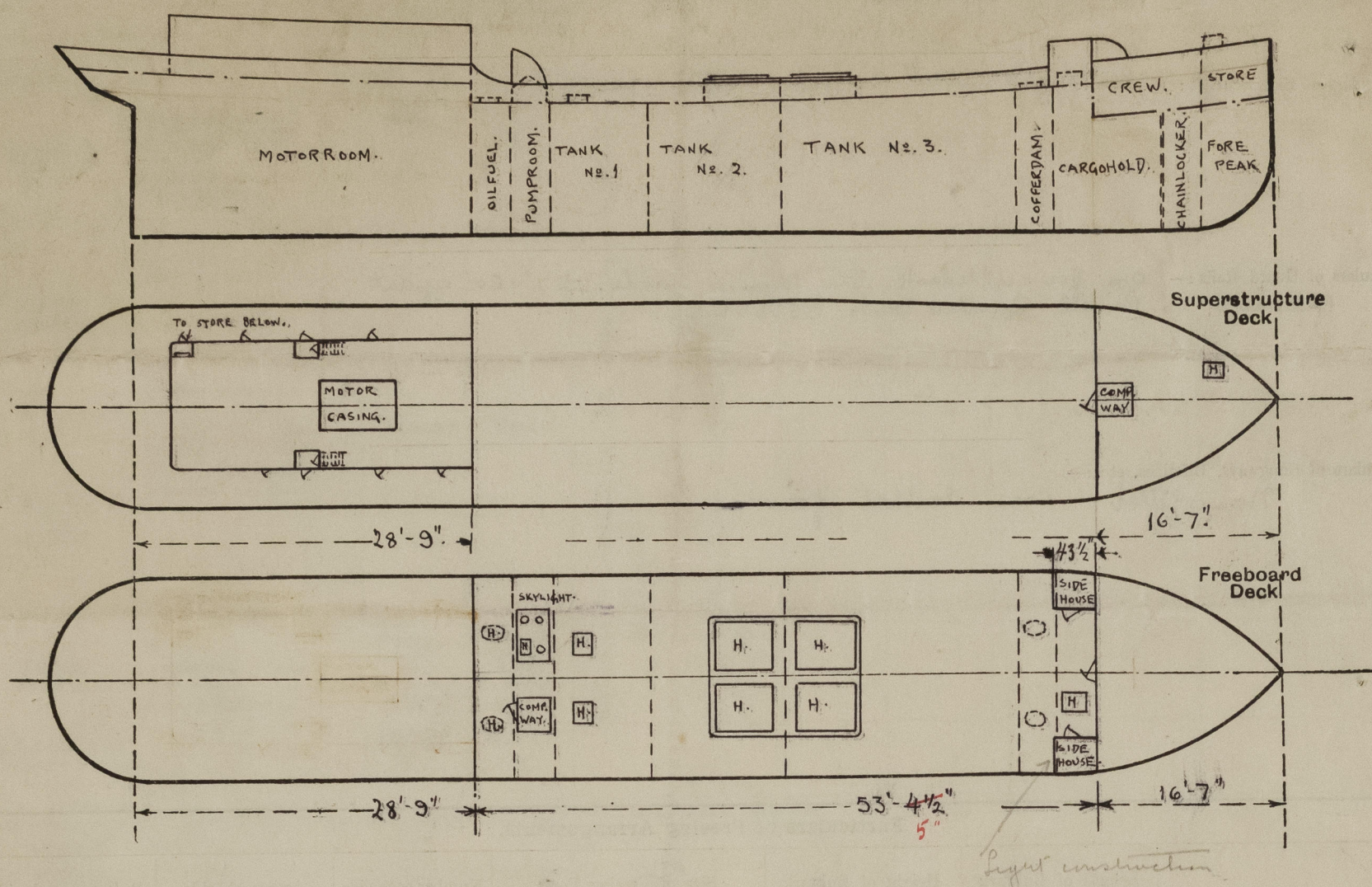
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead								
Raised Quarter Deck Bulkhead		.26"	5 brackets on forward and after end of bulkhead	58"	None.	None.	✓	36"
Bridge, After Bulkhead			3 1/2 x 2 1/2 x .26"	15"	None.			
Bridge, Forward Bulkhead								
Forecastle Bulkhead	✓	.26"	4 brackets on after end and both bulkheads for sidehouse.	31"	None.	On comp. way 23" x 48"	20"	36"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	17 1/2" x .26"	.26"	2 1/2 x 2 1/2 x .26"	33"-48"	None.	None.	12 3/4"	6'-10"
Exposed Machinery Casings on Superstructure Decks	18 1/2" x .26"	.26"	2 1/2 x 2 1/2 x .26"	30"-40"	None.	22 1/2" x 60 1/4" x 23 1/2" x 52" S.B. 17 1/2" x 54" P.S. to pumproom.	18"	6'-10"
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 opening.
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	1 wood door in companion way. Ordinary lock knob.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	No opening.
Exposed Machinery Casings on Superstructure Decks	One wood door S.B. to Engineer room. Ordinary lock knob. 1 - Ringed steel door P.S. to Engineer room and One Ringed steel door to store aft below deck. Ordinary clips.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
PUMPROOM COMPANIONWAY.	
Deckhouses on Flush Deck Ships	1 Ringed steel door fitted with butterfly nuts 22" apart. 2 at sides, 1 at top & bottom.

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:— The survey carried out on slipway and further confined to taking necessary measurements.
The skylight above pumproom is 34" x 58" broad x 27" high at middle x 20" at side x 26".
There are 3 scuttles on top fitted with deadlights and one escape hatchway 13 1/4" x 18 1/4" x 5" anglecoaming fitted with hinged steelcover secured with 5 butterfly nuts.
The forecastledeck is 3" wood.
There are 5" x 30" bulwarkstanchions 60" apart on foredeck, all on beams.
The owners state they wish to retain present Norwegian freeboards as below but they also wish to be assigned a minimum freeboard for tankers in case they find only unimportant structural changes are required and in that case they may decide to have this freeboard marked.
Present Norske Veritas freeboard. Certificate dated 18th February 1922.

F. W. 0'-4 1/2"
S. 0'-6 1/2"
W. 0'-8"
S. B. o. T. 0'-7 1/2"

Bergen 20th August 1932
J. A. Bide jr.

Builder's name and yard number N. V. Machf. & Scheepsw. "De Waal". Nijmegen.

Names of sister ships _____

Owners Norsk Engelsk Mineralolie Akties. Oslo.

Fee kr. 47.- : _____ Received by me _____
to be charged when freeboard is verified.



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Foundation