

Rpt. Q41

DISCLOSED

NEW YORK Rpt. 33925

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(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Q41
33925
COPY WRITTEN

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having a complete superstructure deck with a tonnage opening.
(Type of Superstructures.)

Port of Survey New York

Date of Survey November 10th, 1911.

Name of Surveyor W. H. Bennett.

Particulars of Classification + 100 A1.
With freeboard.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>M.S. "NIEL MÆRSK."</u>	<u>DANISH</u> <u>SVENSBORG.</u>	<u>✓</u>	<u>5086</u>	<u>1911-1</u>

Moulded Dimensions: Length 418.00 Breadth 54.50 Depth 28.61

Moulded displacement at moulded draught = 85 per cent. of moulded depth 11465 tons

Coefficient of fineness for use with Tables .744. (from letter 23/9/11 from Copenhagen Surveyor)

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>28.61</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(28.65 - 27.84) 3 = + 2.34.</u>	Moulded Breadth (B) <u>54.50.</u> Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>13.08</u> Ship's Round of Beam = <u>13.45.</u> Difference <u>.89</u> Restricted to <u>.67</u> Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) =$ <u>.17</u>
Stringer plate <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	
Depth for Freeboard (D) = <u>28.65</u>		

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>32.96</u>	<u>32.96</u>	<u>9.58</u>	<u>✓</u>	<u>32.96</u>	Standard Height of Superstructure <u>7.50</u>
" overhang	<u>.29</u>	<u>.14</u>			<u>.14</u>	" " R.Q.D. <u>✓</u>
R.Q.D. enclosed						Deduction for complete superstructure <u>42.00.</u>
" overhang						Percentage covered $\frac{S}{L} =$ <u>100%</u>
Fore + Bridge enclosed ...	<u>380.21</u>	<u>380.21</u>	<u>9.58</u>	<u>✓</u>	<u>380.21</u>	" " $\frac{S_1}{L} =$ <u>99.44%</u>
" overhang aft	<u>.29</u>	<u>.22</u>			<u>.22</u>	" " $\frac{E}{L} =$ <u>99.44%</u>
" overhang forward ...						Percentage from Table, Line A. <u>✓</u> (corrected for absence of forecastle (if required))
Fore enclosed						Percentage from Table, Line B. <u>99.34%</u> (corrected for absence of forecastle (if required))
" overhang						Interpolation for bridge less than 2L (if required) <u>✓</u>
Trunk aft						Deduction = <u>42.00 x .9934 = -41.42</u>
" forward		<u>1/2 diff</u>				
Tonnage opening aft ...	<u>4.25.</u>	<u>2.23</u>	<u>9.58</u>		<u>2.23</u>	
" " forward						
Total	<u>418.00</u>	<u>415.46</u>			<u>415.46</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>51.80</u>	1		<u>51.80</u>	<u>69.12</u>	<u>74.08</u>	1		<u>74.08</u>	Mean actual sheer aft = <u>Excess.</u> Mean standard sheer aft
1/2 L from A.P. ...	<u>23.05</u>	4		<u>92.20</u>	<u>29.25</u>	<u>39.81</u>	4		<u>159.24</u>	Mean actual sheer forward = <u>Excess.</u> Mean standard sheer forward
1/4 L " ...	<u>5.40</u>	2		<u>11.40</u>	<u>8.88</u>	<u>12.09</u>	2		<u>24.18</u>	Length of enclosed superstructure forward of amidships = } C.S.S. " " aft of " = }
Amidships ...	-	4		-	-	-	4		-	
3/4 L from F.P. ...	<u>11.40</u>	2		<u>22.80</u>	<u>13.25</u>	<u>16.34</u>	2		<u>32.68</u>	
1/2 L " ...	<u>46.10</u>	4		<u>184.40</u>	<u>44.45</u>	<u>58.89</u>	4		<u>235.56</u>	<u>9.58</u> actual T.O. h <u>7.50</u> standard " "
F.P.	<u>103.60</u>	1		<u>103.60</u>	<u>104.00</u>	<u>131.96</u>	1		<u>131.96</u>	<u>2.08</u> <u>12.</u> <u>24.96</u>
Total ...				<u>466.20</u>					<u>644.40</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{211.50}{18} \times .25 = -2.94.$

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)	
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient	<u>80.49.</u>
Depth to Freeboard Deck = <u>28.65</u>	$\Delta =$	Depth Correction	<u>2.34</u>
Summer freeboard = <u>3.21</u>	Tons per inch immersion at summer load water line	Deduction for superstructures	<u>41.42</u>
Moulded draught (d) = <u>25.44</u>	T =	Sheer correction	<u>2.94</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.36.</u>	Deduction = $\frac{\Delta}{40T}$ inches =	Round of Beam correction	<u>✓</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>✓</u>		Correction for Thickness of Deck amidships	<u>✓</u>
		Other corrections, scantlings, etc.	<u>✓</u>
		2.34 44.66 - 42.32	
		Summer Freeboard = <u>38.44</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>12.42 = 323</u>	Tropical Fresh Water Freeboard <u>25.45" = 0.654</u>
Fresh Water Line " "	<u>6.36 = 162</u>	" Fresh Water " " <u>32.11" = 0.815</u>
Tropical Line " "	<u>6.36 = 162</u>	" Tropical " " <u>32.11" = 0.815</u>
Winter Line below " "	<u>6.36 = 162</u>	" Winter " " <u>44.83" = 1.139</u>
Winter North Atlantic Line " "	<u>✓</u>	Winter North Atlantic " " <u>✓</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	No 1	No 2	No 3	No 4	No 5	No 1	No 2	No 3	No 4	No 5
Dimensions of Hatchway	34' 3" x 22'	39' 2" x 20'	44' 1" x 20'	39' 2" x 20'	31' 11" x 20'	36' x 20'	41' 1" x 20'	23' 5" x 20'	28' 8" x 20'	31' 5" x 20'
COAMINGS										
Height above Deck	3' 6"	3' 6"	3' 6"	3' 6"	3' 6"	3' 6"	3' 6"	3' 6"	3' 6"	3' 6"
Thickness	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"	5/8"
Stiffeners	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"
Brackets, Stays	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"	4" x 4"
HATCH BEAMS										
Number	4	4	4	4	4	4	4	4	4	4
Spacing	4' 4"	4' 10"	4' 4"	4' 10"	4' 4"	4' 6"	4' 4"	4' 10"	4' 10"	4' 6"
Scantling and Sketch	14" x 36"	12 1/2" x 34"	12 1/2" x 34"	12 1/2" x 34"	12 1/2" x 34"	18" x 40"	18" x 40"	14" x 40"	19 1/2" x 42"	18" x 40"
Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
FORE AND AFTERS										
Number										
Spacing										
Unsuppported Lengths										
Scantling and Sketch										
Bearing Surface										
HATCH COVERS										
Material	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Thickness	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
How fitted	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Spacing of Cleats	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"	2 1/2"
Number of Tarpaulins	2	2	2	2	2	2	2	2	2	2

*Are wood fore and afters steel shod at all bearing surfaces? *Yes*
 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*

Note: - The Lunnage opening is fitted with efficient temporary covers. The opening in the casing top for exchange of air from within is situated inside the funnel. Access is provided by means of a steel linged door, held efficiently closed by a steel dog and wedge.

Particulars of Flush Bunker Scuttles: *None*

Particulars of Companionways: *None. Entrance to crew's quarters aft is arranged through the after deck-house.*

Particulars of Ventilators in exposed positions on freeboard superstructure decks: *4" vents 12" 20" high. 10" " 24" 34" " 14" " 36" 46" " 24" " 38" 60" " special stiffening*

All ventilators are provided with wood plugs for use in emergency, or when required.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks: *All air pipes on shelter dk. exposed up to the underside of bulwark rail, and are fitted with a patent float valve at the outlet end. There are no air pipes ending on the freeboard deck.*

Particulars of Gangway Cargo and Coaling Ports: *One gangway port (each side) in bulwark plate amidships 2-10" wide, coaming 10" above deck on superstructure deck.*

Particulars of Scuppers and Sanitary Discharge Pipes - *The requirements of Rule XXVII are complied with throughout. All W.C. and sanitary discharge pipes are situated above the freeboard deck. Material of scuppers - cast steel.*

Particulars of Side Scuttles: *Greening port (P.O.S.) in Lunnage well is 2' 6" x 2' 6" and is fitted with a steel door, hinging outwards. (A strongback is fitted for emergency use).*

Particulars of Guard Rails: *Bulwarks are fitted the whole extent of shelter deck, to 4 ft. above deck. Stays are fitted about 6 ft. apart. A similar bulwark is fitted on the forecable deck.*

Particulars of Gangways, Lifelines, etc.: *None.*

STIFFENERS *4" x 4" A.A. sp. 36"*

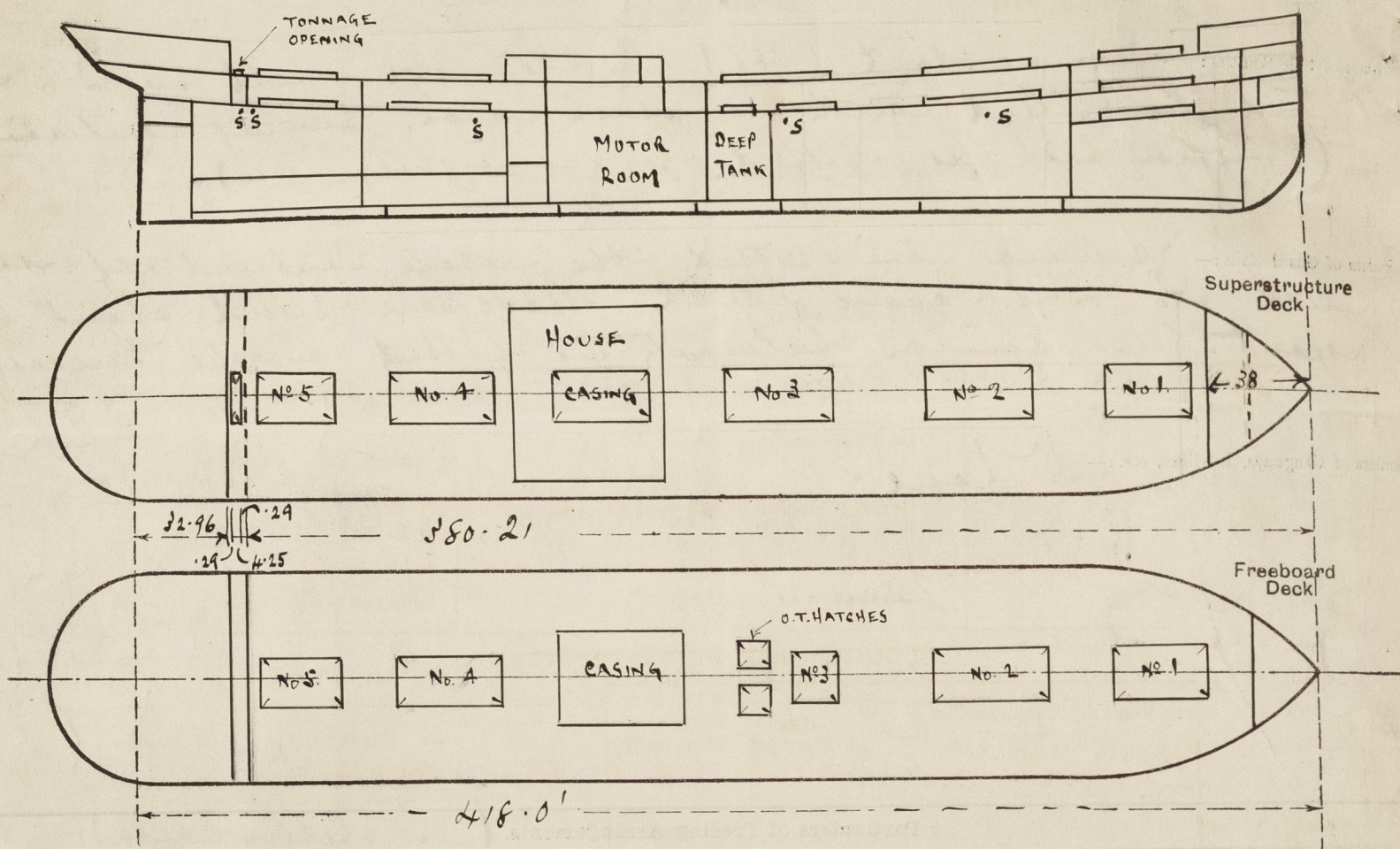
Particulars of Freeing Arrangements. (on shelter deck).						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Well	380 FT.	40"	39" x 19"	nine	41.85 sq ft	38.00
Forward Well	Freeing port in Lunnage well				30" x 30"	
State position of each freeing port { After Well: — 4' on after shelter deck						
(F. and A. position and height above deck edge) { Forward Well: — 3' on forward " "						
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — Rails 9" apart.						
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	3/8"	3/8"	(see letter)	30"	(see letter)	none	none	9' 6"
Raised Quarter Deck Bulkhead	✓							
Bridge, After Bulkhead	✓							
Bridge, Forward Bulkhead	✓							
Forecastle Bulkhead	3/8"	3/8"	4 1/2" x 2 1/2" x 5/16"	30"	none	5' 3" x 3' 1"	20"	9' 6"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
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 (aft. of Lunnage well).	No openings.
Raised Quarter Deck Bulkhead	✓
Bridge, After Bulkhead (aft. of Lunnage well)	Lunnage opening P.O.S. 3" shipping boards for full height of openings, in channels riveted to bulkhead.
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓
Exposed Machinery Casings on Superstructure 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:—

S = SCUPPER (WITH VALVE FITTED).



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

None — except as already stated.

Builder's name and yard number ODENSE STAALSKIBSVFT, No. 38.

Names of sister ships ☒

Owners D/S A/S SVENDBOERG OG A/S D/S AF 1912.

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