

Rpt. C.11

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.Index. No. 34542.
(For London Office only.)

-1 FEB '36

Computation of Freeboard for ^{single screw motor} ~~Steamer~~ Sailing Ship, Tanker
having single deck, poop, bridge, forecastle.Port of Survey OdenseDate of Survey January 1936Name of Surveyor S. SandersonParticulars of Classification + 100 A. I. carrying petroleum in bulk (contemplated)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
M/T "HENNING MÆRSK" Yard No. 57.	Danish		about 9500	1936
Moulded Dimensions: Length <u>480'-0"</u> Breadth <u>65'-3"</u> Depth <u>35'-10"</u>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>(30,46 feet)</u> 21830 tons				
Coefficient of fineness for use with Tables <u>.795 .801</u>				

Depth for Freeboard (D)		Depth correction	
Moulded depth	<u>35'-10"</u>	(a) Where D is greater than Table depth <u>3.90</u>	
Stringer plate	<u>21"</u>	(D-Table depth) R = <u>(35.90 - 32.00) 3.90</u>	
Sheathing on exposed deck	<u>none</u>	= <u>+ 11.70"</u>	
T $\frac{(L-S)}{L}$ =	<u>.35.90</u>	(b) Where D is less than Table depth (if allowed)	
Depth for Freeboard (D) =	<u>10443"</u>	(Table depth-D) R =	
		If restricted by superstructures	

Round of Beam correction	
Moulded Breadth (B)	<u>65'-3" = 19888"</u>
Standard Round of Beam = $\frac{B \times 12}{50}$	= <u>15.66" 1398"</u>
Ship's Round of Beam	= <u>15.75" 400"</u>
Difference	<u>Success .09"</u>
Restricted to	
Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L})$	= <u>.09 \times .6343 = -.01</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<u>299.40</u>	<u>98.23</u>	<u>2337'</u>		<u>98.23</u>
" overhang	<u>18.23</u>	<u>2.62</u>	<u>7.67'</u>		<u>2.62</u>
R.Q.D. enclosed	<u>5.25</u>				
" overhang	<u>37.62</u>				
Bridge enclosed	<u>104.00</u>	<u>37.62</u>	<u>2286'</u>		<u>37.62</u>
" overhang aft	<u>✓</u>		<u>7.50'</u>		
" overhang forward	<u>✓</u>				
Fore enclosed	<u>194.11</u>	<u>37.04</u>	<u>2286'</u>		<u>37.04</u>
" overhang	<u>37.04</u>		<u>7.50'</u>		
Trunk aft	<u>✓</u>				
" forward	<u>✓</u>				
Tonnage opening aft	<u>✓</u>				
" forward	<u>✓</u>				
Total	<u>178.14</u>	<u>175.51</u>			<u>175.51</u>

Standard Height of Superstructure	<u>7.50'</u>
" " R.Q.D.	<u>✓</u>
Deduction for complete superstructure	<u>42.00"</u>
Percentage covered $\frac{S}{L}$ =	<u>37.12%</u>
" " $\frac{S_1}{L}$ =	<u>36.57%</u>
" " $\frac{E}{L}$ =	<u>36.57%</u>
Percentage from Table, Line A. Tanker.	
(corrected for absence of fore-castle (if required))	<u>27.57%</u>
Percentage from Table, Line B.	
(corrected for absence of fore-castle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction = <u>42.00 \times .2757</u>	= <u>- 11.58"</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>58.00</u>	<u>1</u>		<u>58.00</u>	<u>1205</u>	<u>1205</u>	<u>1</u>		<u>1205</u>
$\frac{1}{2}$ L from A.P.	<u>25.81</u>	<u>4</u>		<u>103.24</u>	<u>250</u>	<u>9.84</u>	<u>4</u>		<u>39.36</u>
$\frac{3}{8}$ L	<u>6.38</u>	<u>2</u>		<u>12.76</u>	<u>0</u>	<u>✓</u>	<u>0</u>		<u>0</u>
Amidships	<u>✓</u>	<u>4</u>		<u>✓</u>	<u>0</u>	<u>✓</u>	<u>4</u>		<u>✓</u>
$\frac{3}{8}$ L from F.P.	<u>12.76</u>	<u>2</u>		<u>25.52</u>	<u>0</u>	<u>✓</u>	<u>0</u>		<u>0</u>
$\frac{1}{2}$ L	<u>57.62</u>	<u>4</u>		<u>206.48</u>	<u>765</u>	<u>30.12</u>	<u>4</u>		<u>120.48</u>
F.P.	<u>116.00</u>	<u>1</u>		<u>116.00</u>	<u>2545</u>	<u>100.20</u>	<u>1</u>		<u>100.20</u>
Total				<u>522.00</u>					<u>307.48</u>

Mean actual sheer aft = Deficient
Mean standard sheer aftMean actual sheer forward = Deficient
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = Deficient
" " aft of " = SheetCorrection = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{214.52}{18} \left(.75 - \frac{.1856}{.5644} \right) = + 6.73"$

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.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck	=	<u>35.90</u>
Summer freeboard	=	<u>8.08</u>
Moulded draught (d)	=	<u>27.82</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches	=	<u>6.75 = 177%</u>
Addition for Winter North Atlantic Freeboard (if required) = $6.75 + 4.80$	=	<u>11.55 = 298%</u>

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 19880$

Tons per inch immersion at summer load water line

T = 65.20Deduction = $\frac{\Delta}{40T}$ inches= 7.62"= 194%

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{.801 + .68}{1.36} = \frac{1.481}{1.36}$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

18.43 11.59 + 6.84Summer Freeboard = 96.90

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

Tropical Fresh Water Line above Centre of Disc	...	<u>371"</u>	Tropical Fresh Water Freeboard	...	<u>2090</u>
Fresh Water Line	"	<u>194</u>	Fresh Water	"	<u>2267</u>
Tropical Line	"	<u>177</u>	Tropical	"	<u>2284</u>
Winter Line below	"	<u>177</u>	Winter	"	<u>2638</u>
Winter North Atlantic Line	"	<u>298</u>	Winter North Atlantic	"	<u>2759</u>

Henning MÆRSK

Particulars of Scuppers and Sanitary Discharge Pipes:— No sanitary or discharge pipes from spaces below freeboard deck. Pipes from W. C. made of steel with cast steel storm valves. Other sanitary discharge pipes made of mild steel with cast steel storm valves. Soil pipes from poop accommodation discharge 300 ft above load w. line. Scuppers from spaces under poop fitted with screw down closing plugs of their times ends and storm valves at the ship's sides.

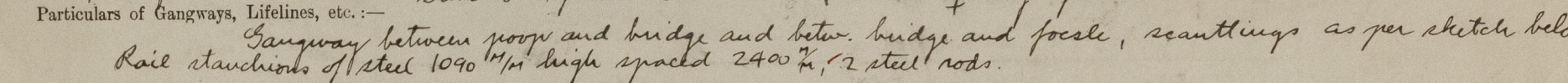
Particulars of Side Scuttles:— No side scuttles below freeboard deck. ✓
 In forecable 250 ¹/₄ side scuttles with 10 ¹/₄ thick securit glass and hinged steel deadlights.
 " bridge 250 " " " " 10 " " " " " " " "
 " poop 250 " " " " 10 " " " " " " " "

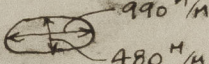
Particulars of Guard Rails:— Open rails on part of freeboard deck 1220 ⁷/₁₆ m high, steel stanchions spaced about 1400 ⁷/₁₆ m, 4 steel rods equally spaced. Steel bulwark for remainder 1220 ⁷/₁₆ m high, 6.5 ⁷/₁₆ m thick with rail bar 180 x 76 x 13 ⁷/₁₆ m, stays 180 x 75 x 9 ⁷/₁₆ m with 75 x 75 x 9 back bar spaced 2 frame spaces.

Open rails on aft part of foredeck 1070 ⁷/₁₆ m high, steel stanchions spaced about 1400 ⁷/₁₆ m, 3 steel rods equally spaced. Steel bulwark for remainder 1070 ⁷/₁₆ m high, 6.5 ⁷/₁₆ m thick, 180 x 76 x 13 ⁷/₁₆ m rail bar, stays 9 ⁷/₁₆ m flanged plate spaced 1500 ⁷/₁₆ m.

Open rails on bridge deck 1070 ⁷/₁₆ m high steel stanchions spaced about 1400 ⁷/₁₆ m, 3 steel rods equally spaced. Steel bulwark on side and front of bridge deck 1070 ⁷/₁₆ m high, 6.5 ⁷/₁₆ m thick, 180 x 76 x 13 ⁷/₁₆ m rail bar, stays 1200 apart. Open rails on poop deck 1120 ⁷/₁₆ m high, steel stanchions spaced about 1400 ⁷/₁₆ m, 3 rods equally spaced.

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	25930 $\frac{M}{m}$	1220 $\frac{M}{m}$	 990 $\frac{M}{m}$ 480 $\frac{M}{m}$	3	1,278 M^2 ✓ ✓ 25.595m open rails	$\frac{1}{2}$ L open rails
Forward Well	18650 $\frac{M}{m}$	1220 $\frac{M}{m}$	do.	2	0,852 M^2 ✓ ✓ 21.775m open rails	$\frac{1}{2}$ L open rails
State position of each freeing port (F. and A. position and height above deck edge)				After Well:— 44, 94, 107 } height above deck Forward Well:— " 122, 162 } State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 3 vertical 22 $\frac{M}{m}$ dia. rods equally spaced. ✓		
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	11 ^M / _A	11 ^M / _A	250 x 90 x 11 5	600-750	brackets and lugs	no openings	✓	✓
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	10 ^M / _A	9 ^M / _A	180 x 75 x 9 5	815-823	lugs bottom	two 1245 x 940 ^M / _N	465 ^M / _N	✓
Bridge, Forward Bulkhead	11 ^M / _A	11 ^M / _A	230 x 90 x 11 5	815-823	brackets	one don 1465 x 725 "	465 "	✓
Forecastle Bulkhead	9 ^M / _A	9 ^M / _A	180 x 75 x 9 5	700-755	lugs	two 1245 x 940 " two w. X doors 1465 x 580 "	465 " 485 "	✓ ✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	8.5 ^M / _A	8.5 ^M / _A	115 x 65 x 7 5	840	none	one in each 1450 x 840	455 ^M / _N	2286 ^M / _N
Exposed Machinery Casings on Super- structure Decks	9.5 "	8.5 "	80 x 65 x 7 5	800	bracket at top none at foot	don each side 1470 x 710	480 "	3436 "
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships ...								

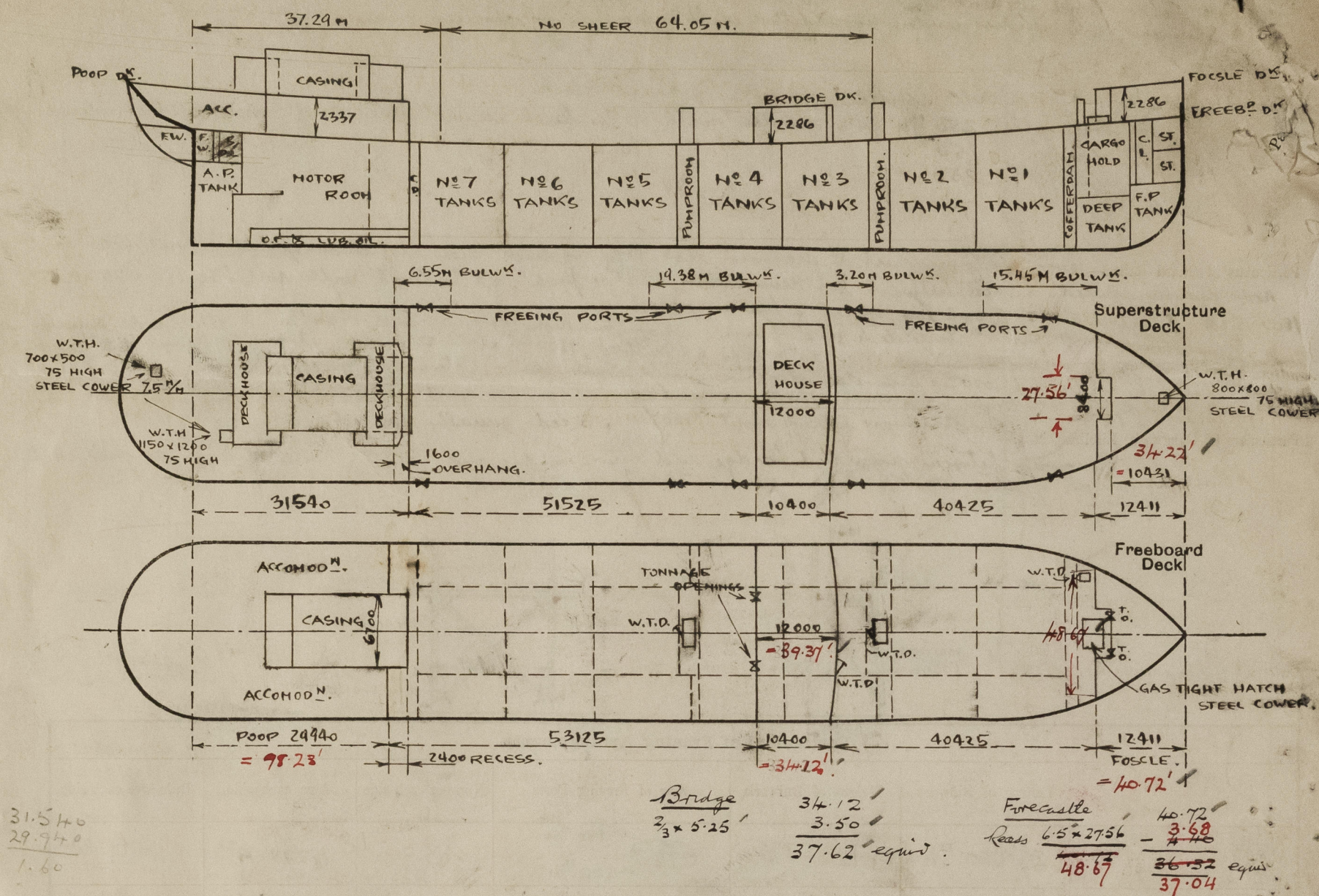
Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	no openings. ✓
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	Two tonnage openings with 65 ¹ / ₄ thick wood planks in riveted channels, full height ✓
Bridge, Forward Bulkhead	1 w. t. hinged steel door, capable of being manipulated from both sides. ✓
Forecastle Bulkhead	Two tonnage openings with 65 ¹ / ₄ thick wood planks in riveted channels full height, 2 w. t. steel doors ✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	1 hinged steel door in each casing, capable of being manip. from both sides ✓
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors in halves " " " " " " " " ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships ...	

Forecastle Bulkhead	Two toronage openings with 55" thick wood planks in riveted channels full height, 7' w. steel doors
Exposed Machinery Casings on Free-board or Raised Quarter Decks	1 hinged steel door in each casing, capable of being manipulated from both sides
Exposed Machinery Casings on Super-structure Decks	Hinged steel doors in bulkheads

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:—

Combined longitudinal and transverse framing system.
Two longitudinal bulkheads.

On approximate load line:— (about 28'-0" draught)

External displacement = 19880 Tons at 35 cub. feet.

Tons per inch immersion = 65.20 Tons at 35 cub. feet.

Builder's name and yard number

Odense Staalskibsværft ved A. P. Möller. Yard No. 57.

Names of sister ships

Owners

Samyskibsselskabet Svendborg & Samyskibsselskabet af 1912

Fee £

Received by me



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