

Rpt. C.11. 35767
Stikeland

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Index No.
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer Sailing Ship, Tanker					Port of Survey <u>Odense</u>
having <u>poop, bridge and fore-castle</u>					Date of Survey <u>May 1939</u>
(Type of Superstructures.)					Name of Surveyor <u>S. Sanderson</u>
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	Particulars of Classification <u>+100 A1</u> <u>carrying petroleum in bulk</u> <u>(contemplated)</u>
<u>m.t. "INGE MERSE"</u>	<u>Danish Copenhagen</u>	<u>9397</u>	<u>21790</u>	<u>1938-39</u>	
Moulded Dimensions: Length <u>480.98</u> Breadth <u>65'-3"</u> Depth <u>35'-10"</u>					
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>21790</u> tons					
Coefficient of fineness for use with Tables <u>.794</u> <u>.798</u>					

Depth for Freeboard (D)		Depth correction	Round of Beam correction
Moulded depth ...	<u>35'-10"</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(35.90-32.07)3 = +11.49"</u>	Moulded Breadth (B) <u>65'-3"</u>
Stringer plate ...	<u>27 1/2"</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>3.83</u>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>15.66"</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	<u>none</u>	If restricted by superstructures	Ship's Round of Beam = <u>15 3/4"</u>
Depth for Freeboard (D) =	<u>35'-10 27/32"</u>		Difference <u>.09 excess</u>
			Restricted to
			Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <u>.09 x .6331 = -.01"</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>99.21</u>	<u>99.21</u>	<u>7.67'</u>		<u>99.21</u>	Standard Height of Superstructure <u>7.50'</u>
" overhang ...	<u>5.25'</u>	<u>2.62</u>			<u>2.62</u>	" " R.Q.D.
R.Q.D. enclosed ...						Deduction for complete superstructure <u>42.00"</u>
" overhang ...	<u>37.62</u>					Percentage covered $\frac{S}{L} =$ <u>37.24</u>
Bridge enclosed <u>EQUIV.</u> ...	<u>34.12</u> <u>39.37</u>	<u>37.62</u>	<u>7.50'</u>		<u>37.62</u>	" " $\frac{S_1}{L} =$ <u>36.69</u>
" overhang aft ...						" " $\frac{E}{L} =$ <u>36.69</u>
" overhang forward ...	<u>37.04</u>					Percentage from Table, Line A. <u>TANKER 27.69</u>
F'cle enclosed <u>EQUIV.</u> ...	<u>34.42</u> <u>40.72</u>	<u>37.04</u>	<u>7.50'</u>		<u>37.04</u>	(corrected for absence of fore-castle (if required))
" overhang ...						Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of fore-castle (if required))
" forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction = <u>42 x .2769 = -11.63"</u>
" " forward						
Total ...	<u>179.12</u>	<u>176.49</u>			<u>176.49</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>58.10</u>	1		<u>58.10</u>	<u>47.44"</u>	<u>47.44"</u>	1		<u>47.44</u>	Mean actual sheer aft = <u>Deficient</u>
1/8 L from A.P. ...	<u>25.85</u>	4		<u>103.40</u>	<u>9.84"</u>	<u>9.84"</u>	4		<u>39.36</u>	Mean actual sheer forward = <u>Deficient</u>
1/4 L " ...	<u>6.39</u>	2		<u>12.78</u>	<u>0</u>	<u>-</u>	2		<u>-</u>	Mean standard sheer forward
Amidships ...		4		<u>0</u>	<u>0</u>	<u>-</u>	4		<u>-</u>	Length of enclosed superstructure forward of amidships = <u>Deficient</u>
3/8 L from F.P. ...	<u>12.78</u>	2		<u>25.56</u>	<u>0</u>	<u>-</u>	2		<u>-</u>	" " aft of " = <u>Sheer.</u>
1/2 L " ...	<u>51.71</u>	4		<u>206.84</u>	<u>30.12"</u>	<u>30.12"</u>	4		<u>120.48</u>	
F.P. ...	<u>116.20</u>	1		<u>116.20</u>	<u>100.20"</u>	<u>100.20"</u>	1		<u>100.20</u>	
Total ...				<u>522.88</u>					<u>307.48</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{215.4}{18} \left(.75 - \frac{186.2}{5638} \right) = +6.75"$

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 = <u>35.90</u> Summer freeboard = <u>8.06</u> Moulded draught (d) = <u>27.84</u> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.96</u> = <u>177 mm</u> Addition for Winter North Atlantic Freeboard (if required) = <u>6.96 + 4.81 = 11.77 = 299 mm</u>	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ <u>19846</u> Tons per inch immersion at summer load water line $T =$ <u>65</u> Deduction = $\frac{\Delta}{40T}$ inches = <u>7.63</u> = <u>194 mm</u>	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{1.98 + .68}{1.36} = \frac{1.478}{1.36}$ <table><tr><th></th><th>+</th><th>-</th></tr><tr><td>Depth Correction ...</td><td><u>11.49</u></td><td><u>-</u></td></tr><tr><td>Deduction for superstructures ...</td><td><u>-</u></td><td><u>11.63</u></td></tr><tr><td>Sheer correction ...</td><td><u>6.75</u></td><td><u>-</u></td></tr><tr><td>Round of Beam correction ...</td><td><u>-</u></td><td><u>.01</u></td></tr><tr><td>Correction for Thickness of Deck amidships ...</td><td><u>-</u></td><td><u>-</u></td></tr><tr><td>Other corrections, scantlings, etc. ...</td><td><u>-</u></td><td><u>-</u></td></tr><tr><td></td><td><u>18.24</u></td><td><u>11.64</u></td></tr></table> Summer Freeboard = <u>96.73</u>		+	-	Depth Correction ...	<u>11.49</u>	<u>-</u>	Deduction for superstructures ...	<u>-</u>	<u>11.63</u>	Sheer correction ...	<u>6.75</u>	<u>-</u>	Round of Beam correction ...	<u>-</u>	<u>.01</u>	Correction for Thickness of Deck amidships ...	<u>-</u>	<u>-</u>	Other corrections, scantlings, etc. ...	<u>-</u>	<u>-</u>		<u>18.24</u>	<u>11.64</u>
	+	-																								
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	<u>18.24</u>	<u>11.64</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>371 mm</u> <u>14 3/4"</u>	Tropical Fresh Water Freeboard ...	<u>8'-0 3/4"</u> <u>2457 mm</u>
Fresh Water Line " " ...	<u>194 mm</u> <u>7 3/4"</u>	Fresh Water " " ...	<u>6'-10"</u> <u>2086 mm</u>
Tropical Line " " ...	<u>177 mm</u> <u>7"</u>	Tropical " " ...	<u>7'-5"</u> <u>2263 mm</u>
Winter Line below " " ...	<u>177 mm</u> <u>7"</u>	Winter " " ...	<u>7'-5 3/4"</u> <u>2280 mm</u>
Winter North Atlantic Line " " ...	<u>299 mm</u> <u>11 3/4"</u>	Winter " " ...	<u>8'-7 1/4"</u> <u>2634 mm</u>
		Winter North Atlantic " " ...	<u>9'-0 1/2"</u> <u>2756 mm</u>

18 MAY 1939

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		Oil tight hatchways		Garboard hatchways		Garboard hatchways		Garboard hatchways	
Dimensions of Hatchway		5' 3" x 4' 0 1/2"		8' 8" x 11' 4"		8' 8" x 11' 4"		8' 8" x 11' 4"	
COAMINGS	Height above Deck	32"	12"	30"	30"	30"	30"	30"	30"
	Thickness	.39"	.39"	.39"	.39"	.39"	.39"	.39"	.39"
	Stiffeners	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"
	Brackets, Stays	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"	Horizontal 4" x 3" x .35"
HATCH BEAMS	Number	None	None	None	None	None	None	None	None
	Spacing	None	None	None	None	None	None	None	None
	Scantling and Sketch	None	None	None	None	None	None	None	None
	Bearing Surface	None	None	None	None	None	None	None	None
FORE AND AFTERS	Number	None	None	None	None	None	None	None	None
	Spacing	None	None	None	None	None	None	None	None
	Unsupported Lengths	None	None	None	None	None	None	None	None
	Scantling and Sketch	None	None	None	None	None	None	None	None
HATCH COVERS	Material	Steelplate	Steelplate	Steelplate	Steelplate	Steelplate	Steelplate	Steelplate	Steelplate
	Thickness	.49" thick with 4" x 3" x .39" stiff.	.49" thick with 4" x 3" x .39" stiff.	.49" thick with 4" x 3" x .39" stiff.	.49" thick with 4" x 3" x .39" stiff.	.49" thick with 4" x 3" x .39" stiff.	.49" thick with 4" x 3" x .39" stiff.	.49" thick with 4" x 3" x .39" stiff.	.49" thick with 4" x 3" x .39" stiff.
	How fitted	Hinged and packed oil tight.	Hinged and packed oil tight.	Hinged and packed oil tight.	Hinged and packed oil tight.	Hinged and packed oil tight.	Hinged and packed oil tight.	Hinged and packed oil tight.	Hinged and packed oil tight.
	Bearing Surface	None	None	None	None	None	None	None	None
Spacing of Cleats		None	None	None	None	None	None	None	None
Number of Tarpaulins		None	None	None	None	None	None	None	None

*Are wood fore and afters steel shod at all bearing surfaces?
 Are battens and wedges efficient and in good condition?
 Are tarpaulins in good condition and in accordance with rule requirements?
 Are lashings provided in accordance with rule requirements?

Particulars of fiddle, funnel and ventilator coamings:-

6 ventilators 6'-10" x 35" diam. x .39" steel coamings
 2 - " - 30" x 16" - " x .37" - "
 2 - " - 30" x 16" - " x .37" - "
 Motor room skylight made of steel, riveted to casing top, with hinged steel flaps.
 Funnel coamings of .25" steel plate riveted to casing top.

Particulars of Flush Bunker Scuttles:-

None.

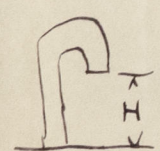
Particulars of Companionways:-

2 pump room casings made of .33" steel plate, riveted to freeboard deck with W.T. steel skylight on top and W.T. steel doors capable of being manipulated from both sides (height of sill 18").
 Companion to forward pump room made of .31" steel plate riveted to freeboard deck with hinged W.T. steel door (height of sill 16").

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

Freeboard deck:- 2 @ 36" x 12" x .34 thick
 1 @ 30" x 12" x .34 (on top of companionway)
 4 @ 21" x 8" x 21" x .40 (enclosed as deck ports)
 Body deck:- 2 @ 30" x 12" x .34
 all ventilator coamings riveted to steel decks and filled with steel cables, wood plugs and canvas covers.

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



all air pipes fitted with galv. steel swan necks and hinged steel covers.
 H = upper deck 36"
 deck 27"
 other superstructures 20"

Particulars of Gangway Cargo and Coaling Ports:-

None.

Particulars of Scuppers and Sanitary Discharge Pipes:-

No sanitary discharge pipes from spaces below freeboard deck.
 Discharge pipes made of steel with cast steel storm valves.
 Soil pipes from poop acc. discharge ab. 12' above L.W.L. and scuppers from spaces under poop fitted with screw down covering plates and storm valves.

Particulars of Side Scuttles:-

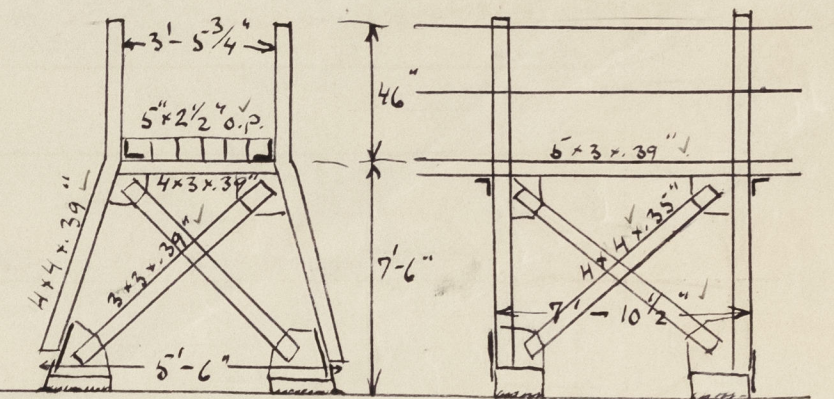
No side scuttles below freeboard deck.
 All side scuttles 10' diam. with 3/8" security glass and hinged steel deadlights.
 Vertical distance of sill of lowest side scuttle above top of keel 41'-0".

Particulars of Guard Rails:-

Open rails on part of freeboard deck 4'-0" high with steel stanchions spaced ab. 4'-7" and 4 rods equally spaced. Steel bulwark on remaining part 4'-0" high, .26" thick with railbar 7" x 5" x .51" and stays 7" x 5" x .35" with 3" x 3" x .35" spaced at 2 ft intervals. Open rails on superstructure decks 42" high with steel stanchions spaced ab. 4'-7" and 3 rods equally spaced. Steel bulwark at sides and part of bridge 42" high, .26" thick with 7" x 3" x .51" railbar and stays spaced ab. 4'-0".

Particulars of Gangways, Lifelines, etc.:-

steel gang way between poop and bridge and between bridge and deck.



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	85.07'	4'-0"	39" x 19"	3	1989 in ² + 897 OPEN RAILS	50% open rails
Forward Well	61.19'	4'-0"	do.	2	1326 in ² + 7146 OPEN RAILS	50% open rails

State position of each freeing port ... After Well:- on frames 44, 94 and 107
 (F. and A. position and height above deck edge) Forward Well:- 122 and 162
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:- 3 vertical rods equally spaced.
 Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

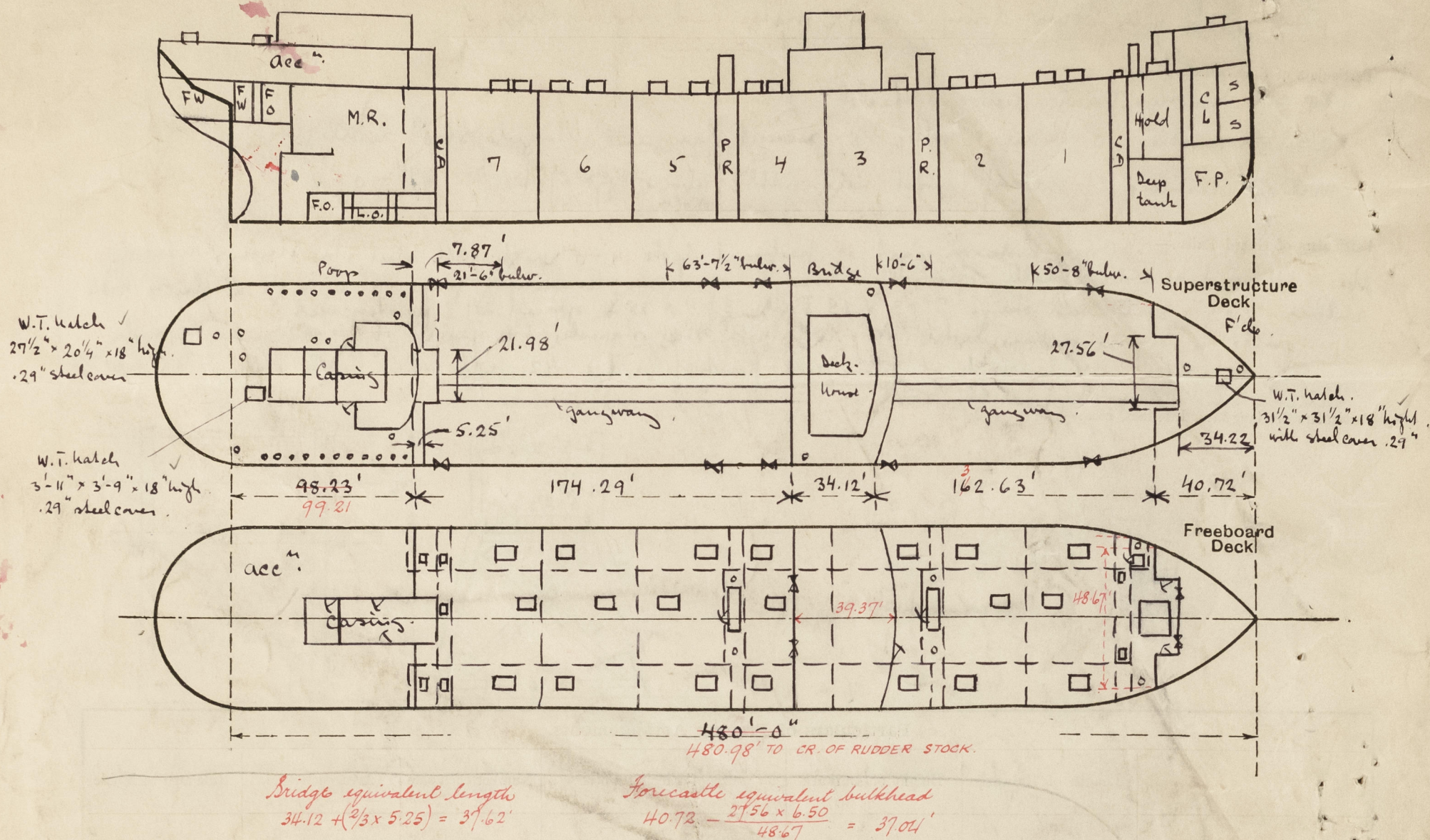
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	.43"	.43"	10 x 3/2 x .39	24" - 30"	brackets & lugs	none	—	—
Raised Quarter Deck Bulkhead	.39"	.35"	7 x 3 x .35	32" - 32 1/2"	lugs	2 @ 4'-1" x 3'-1"	18 1/4"	—
Bridge, After Bulkhead	.43"	.43"	9 x 3 1/2 x .45	32" - 32 1/2"	brackets	1 @ 4'-9 1/2" x 28 1/2"	18 1/4"	—
Bridge, Forward Bulkhead	.35"	.35"	7 x 3 x .35	27 1/2" - 29 1/2"	lugs	2 @ 4'-1" x 3'-1"	19"	—
Forecastle Bulkhead	.33	.33	4 1/2 x 2 1/2 x .27	33"	none	1 @ 4'-9" x 33"	18"	7'-6"
Trunk, Aft	.33	.33	4 1/2 x 2 1/2 x .27	33"	none	1 @ 4'-9" x 33"	18"	7'-6"
Trunk, Forward	.33	.33	4 1/2 x 2 1/2 x .27	33"	none	1 @ 4'-9" x 33"	18"	7'-6"
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	.44"	.44"	10 x 3 1/2 x .44	26"	brackets and lugs	none	—	7'-6"
Exposed Machinery Casings on Superstructure Decks	.37"	.33"	3 1/8 x 2 1/2 x .27	31 1/2"	brackets at top	2 @ 4'-10" x 28"	19"	11'-3 1/4"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	.33	.33	4 1/2 x 2 1/2 x .27	33"	none	1 @ 4'-9" x 33"	18"	7'-6"

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	— No openings
Raised Quarter Deck Bulkhead	—
Bridge, After Bulkhead	Tamag openings with 2 1/2" wood planks in riveted channels, full height.
Bridge, Forward Bulkhead	W.T. hinged steel door capable of being manipulated from both sides.
Forecastle Bulkhead	Tamag openings with 2 1/2" wood planks in riveted channels, full height.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	and W.T. hinged steel doors capable of being manipulated from both sides.
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors capable of being manipulated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	—
Pump room casing	Hinged steel door capable of being manipulated from both sides.
Deckhouse on Flush Deck Ship	—

Inge. MAERSK.

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 long. and transverse framing system with 2 long. bilg.

On approximate load line (ab. 28'-0") :-

Extreme displacement = 19830 tons @ 35 ft³

Tons per inch = 65 tons @ --

Builder's name and yard number Mess. Odense Staalskibsværft, yard no. 78

Names of sister ships M.T. "Stiklestad", yard no. 72

Owners A.P. Møller Esq.

Fee £ : : Received by me



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