

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

AUG 11 1939

Computation of Freeboard for *motor vessel*  
having *complete superstructure*

(Type of Superstructures.)

Port of Survey *Odense*

Date of Survey *August 1939*

Name of Surveyor *S. Sandersen*

Particulars of Classification *+100 A1 with freeboard (contemplated)*

Ship's Name *SOMMELSDYK* Nationality and Port of Registry *Dutch Rotterdam* Official Number *✓* Gross Tonnage *ab. 7900* Date of Build *1939*

Moulded Dimensions: Length *41.722 m* Breadth *18.898* Depth *12.344 / 9.906*

Moulded displacement at moulded draught = 85 per cent. of moulded depth *(8.4202) ab. 16200 tons*

Coefficient of fineness for use with Tables *.7677 .408.* *15990 cu. metres.*

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	9906 <sup>2</sup>	(a) Where D is greater than Table depth (D - Table depth) R =	8.33(9.914 - 9.440) 30. = + 112 mm	Moulded Breadth (B)	18.898 <sup>2</sup>
Stringer plate	11.5	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50} =$	3.78 <sup>2</sup>
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$				Ship's Round of Beam = $\frac{B \times 12}{50} =$	3.05 <sup>2</sup>
Depth for Freeboard (D) =	9.914	If restricted by superstructures		Difference	76 <sup>2</sup>
				Restricted to	
				Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L}\right) =$	$\frac{302}{4} (.0075) = +1 \text{ mm}$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	7610	4.930	2438	✓	7.930
" overhang ...	7230	.592	-		.592
R.Q.D. enclosed ...	1185	-	-		-
" overhang ...	-	-	-		-
Bridge enclosed ...	-	-	2438	✓	-
" overhang aft ...	-	-	-		-
" overhang forward ...	131.599	131.599	-3710	✓	131.599
" F'cle enclosed ...	-	-	(plan in back of report)		-
" overhang ...	.090	.067	-		.067
Trunk aft ...	-	-	-		-
" forward ...	1245	-	-		-
Tonnage opening aft ...	2520	.930	3062	✓	.930
" forward ...	-	-	-		-
Total ...	142.049	141.118	-		141.118

Standard Height of Superstructure	2290
" " R.Q.D.	✓
Deduction for complete superstructure	1064
Percentage covered $\frac{S}{L} =$	100.00
" " $\frac{S_1}{L} =$	99.34
" " $\frac{E}{L} =$	99.34
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	99.19
Interpolation for bridge less than 2L (if required)	
Deduction =	1064 × .9919 = - 1058 mm.

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	1434	1	1434	1250	1398	1	1398		
$\frac{1}{2}$ L from A.P. ...	638	4	2552	620	622	4	2488		
$\frac{3}{4}$ L " ...	159	2	318	205	154	2	308		
Amidships ...	✓	4	-	0	-	4	-		
$\frac{3}{4}$ L from F.P. ...	319	2	638	330	314	2	628		
$\frac{1}{2}$ L " ...	1244	4	5108	1175	1269	4	5076		
F.P. ...	2844	1	2844	2630	2851	1	2851		
Total ...			12924				12449		

Mean actual sheer aft = *Deficient* Actual T.O. ht. 2438

Mean standard sheer aft = *Deficient* Standard T.O. ht. 2290

Mean actual sheer forward = *Deficient*

Mean standard sheer forward = *Deficient*

Length of enclosed superstructure forward of amidships = } C.S.S.

" " aft of " = }

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{148}{18} \times (.45 - .50) = +2 \text{ mm.}$

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

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Deduction for Tropical Freeboard.  
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *9.914*

Summer freeboard = *1.440*

Moulded draught (d) = *8.474*

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{48} \text{ inches} = 177 = 18 \text{ cms}$

Addition for Winter North Atlantic Freeboard (if required) = *✓*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 16270$

Tons per inch immersion at summer load water line

$T = 56.2$

Deduction =  $\frac{\Delta}{40T} \text{ inches} = 7.24"$

= 18 cms.

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ... *112*

Deduction for superstructures ... *1058*

Sheer correction ... *2*

Round of Beam correction ... *1*

Correction for Thickness of Deck amidships ... *✓*

Other corrections, scantlings, etc. ... *✓*

Summer Freeboard = *1443*

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

Tropical Fresh Water Line above Centre of Disc ... *36 cms*

Fresh Water Line " " ... *18 "*

Tropical Line " " ... *18 "*

Winter Line below " " ... *18 "*

Winter North Atlantic Line " " ... *✓*

Tropical Fresh Water Freeboard ... *108 "*

Fresh Water " " ... *126 "*

Tropical " " ... *126 "*

Winter " " ... *162 "*

Winter North Atlantic " " ... *✓*

25 AUG 1939



"Sommelsdyk."

For particulars of no. 4 see drawings on notebook desk please see back of report.

Funnel coaming made of 6.5 Z steel plates riveted to casing top.

Ventilators:-

3 @ 320 Z diam -	} with 760 Z coamings of 8.5 Z steel plates riveted to casing top.								
1 @ 270 " "									
1 @ 375 " "									
	- 760 -	- -	- 9 -	- -	- -	- -	- -	- -	- -

more

access to crew space aft inside deckhouse on superstructure deck. openings in the deckhouse fitted with 2" plank doors of teak capable of being manipulated from both sides and height of sill 610  $\frac{1}{2}$  above wood deck.

all coamings made of steel and securely welded to steel decks ✓  
all ventilators fitted with steel covers, wood plugs and canvas covers except where fitted with cast steel man-locks in which cases hinged steel covers are fitted.  
For particulars of coamings please see below. ✓

all airpipes made of galv. steel or cast steel and fitted with goose necks, wire gauge and approved closing appliances.  
Height of openings above wood decks are :- F'dl deck 460-630  $\checkmark$   
Upper deck 630  $\checkmark$

none

F'ile :- 2-24"-diam. constructed as derrick posts. ✓  
Seethehouse aff. :- 2-18"-diam. with 30"x.40 crannings ✓  
F'old mudlans :- 2-32"- " - approved patent corks. ✓  
-- derrick post house :- 2-31"-diam. constructed as derrick posts. ✓  
                              2-8"- " - with 30"x.36 crannings ✓  
aff -- " -- " :- 4-8"- " - " 30"x.36 " " ✓  
                              2-31"- " - constructed as derrick posts ✓  
- mudlans :- 2-32"- " - with approved patent corks.

Upper decks :-  
F'old :- 2-8"-diam. with 36"x.36" crannings ✓  
          2-21"- " - constructed as derrick posts ✓  
          4-9"- " - } with strong cast steel man-ways ✓  
aff :- 6-9"- " - } with openings 36" above wood decks ✓  
          2-21"- " - } constructed as derrick posts ✓  
          2-24"- " - }  
          2-9"- " - with 36"x.32" crannings ✓  
          2-6"- " - " 36"x.30" " " ✓

[illegible]

all side scuttles fitted with 28-32 Zn glass, hinged steel deadlights and steel plugs.  
Vertical distance of sill of lowest side scuttle above top of keel = 9450 mm ✓

Particulars of Guard Rails :-  
 Upper deck :- Open rails 1140 Z high with 4 rods spaced at .220 Z and stanchions spaced at .1400 Z ✓  
 except in way of counter where steel bulwark 1150 Z high of 6 Z plate with 130 .65 .105  
 railbar and 9 Z plate stanchions with 75 Z Flanges spaced at .1200 Z ✓  
 Erection :- open rails on deckhouse aft, bridge and f'dr with particulars as for open rails on  
 upper deck ✓

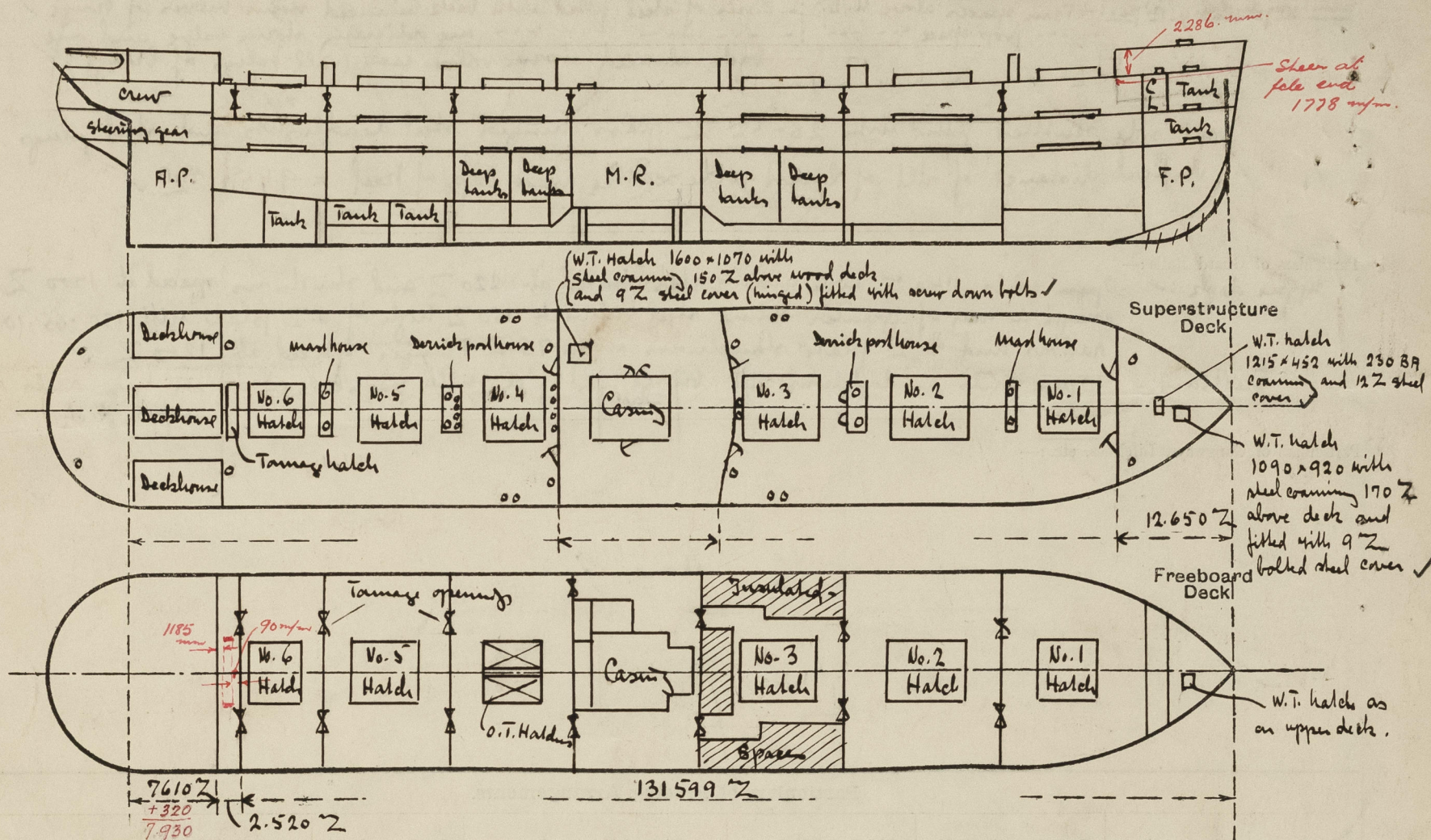
more. ✓

State position of each freeing port. ... { After Well:— ✓  
(F. and A. position and height above deck edge) { Forward Well:— ✓  
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— ✓  
Additional area where sheer is less than standard. ✓

Particulars of Superstructures, Trunks, Casings, Deckhouses.Particulars of Closing Appliances (state if capable of being manipulated from both sides).



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:—



Particulars of hatches:—

No. 4 O.T. Hatch: on freeboard deck:— 2 @ 7560 x 2748 Z with 240 Z channel coamings 13 Z thick ✓ and fitted with 12.5 Z steel covers with 2-250.90.12 5 stiff? longitudinally and 2-250.90.125 and 6-100.75.9 4 stiff? athwartships ✓

Tammy hatch on upper deck:— 5500 x 1248 with 11 Z steel coaming 200 Z above wood deck and fitted with wood covers, tarpaulines & battering down arrangements (not permanently attached)

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

Sheer in freeboard deck:—

A.P.	560 Z (Deck raised 607 Z abaft p. 13)
1/6 L p. A.P.	60 "
1/3 L p. A.P.	0 "
amidships	0 " } no sheer from p. 35-144
1/3 L p. F.P.	0 "
1/6 L " F.P.	100 "
F.P.	1350 "

Sheer at fore end 1448  
Excess T.O. Lt. 148.  
1926 mm.

Corresponding sheer at fore perp.  $\frac{1926 \times 71.024^2}{58.374^2} = 2851$

Displacements:—

Depth	moulded displacement in m <sup>3</sup>	Tons/in
27'-0"	15480	55.9
28'-0"	16130	56.2
29'-0"	16790	56.5

27.82  
17  
27.99

2 142.009  
71.024  
12.650  
58.374

12.344

2.630

2.286

16230 to fore deck

12.344  
2.286  
15.195

Builder's name and yard number Messrs. Odense Staal Skibsverft, yard no. 79.

Names of sister ships ✓

Owners Holland America Line.

Fee £ : : :

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