

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having a complete superstructure with Tonnage Opening

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>Sotavikos 466 (Design No 732)</u>			<u>approx. 4150</u>	<u>Building</u>

Moulded Dimensions: Length 372.0 Breadth 55.0 Depth 27.5 to 2nd deck.

Moulded displacement at moulded draught = 85 per cent. of moulded depth 10510 tons

Coefficient of fineness for use with Tables 77.769

Port of Survey Gothenburg

Date of Survey 13th Oct. 1931

Name of Surveyor Geo. Webster

Particulars of Classification +100.A.1 Shella Dr. with freeboard.

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	27.50	(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B)	55.0
Stringer plate	.03	(27.53 - 24.80) 2.861 = +7.81		Standard Round of Beam = $\frac{B \times 12}{50}$	13.20
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Ship's Round of Beam	0
$T \left(\frac{L-S}{L} \right) =$				Difference	13.2
Depth for Freeboard (D) =	27.53	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L})$	33 x .006 = +.02

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	31.65	31.65	8'-0"		31.65
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	335.69	335.69	8'-0"		335.69
" overhang aft	.27	.27			
" overhang forward					
Fore enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft	4.39	2.23	1/2 diff.		2.23
" forward					
Total	372.00	369.77			369.77

Standard Height of Superstructure	7.22
" " R.Q.D.	
Deduction for complete superstructure	40.13
Percentage covered $\frac{S}{L} =$	100.0
" " $\frac{S_1}{L} =$	99.40
" " $\frac{E}{L} =$	99.40
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	99.26
Interpolation for bridge less than 2L (if required)	
Deduction =	40.13 x .9926 = - 39.83

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	4.7	20	1	47.20	48.4	57.76	1		57.76
1/4 L from A.P.	21.00	4		84.00	13.1	22.46	4		89.84
1/2 L	5.19	2		10.38	.4	6.35	2		12.70
Amidships	0.0	4		0.0	0	0.0	4		
3/4 L from F.P.	10.38	2		20.76	11.2	11.73	2		23.46
1/4 L	42.01	4		168.04	43.5	47.43	4		189.72
F.P.	94.40	1		94.40	97.3	106.66	1		106.66
Total				424.78					480.14

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{55.36}{18} (.75 - .50) = -.77$$

If limited on account of midship superstructure.

CSS.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

$$\begin{aligned} \text{Actual T.D.} &= 8.0' \\ \text{Standard do} &= 7.22' \\ \text{Excess} &= 0.78' \\ &= 9.36" \end{aligned}$$

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

$$\begin{aligned} \text{Depth to Freeboard Deck} &= 27.53 \\ \text{Summer freeboard} &= 2.86 \\ \text{Moulded draught (d)} &= 24.67 \end{aligned}$$

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.17

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

Tons per inch immersion at summer load water line

T =

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

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{7694.68}{1.36}$$

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

+	-
7.81	
-	39.83
-	.77
.02	
-	
-	
7.83	40.60

Summer Freeboard = 34.35

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	"

$$2' - 10' 4"$$

$$2' - 4' 4"$$

$$3' - 4' 2"$$

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	...	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...	...
COAMINGS	{	Height above Deck	...	...	...	...	...	...	...	...
		Thickness	...	...	...	...	...	...	...	...
		Sides	...	...	...	...	...	...	...	...
		Stiffeners	...	...	...	...	...	...	...	...
HATCH BEAMS	{	Number	...	...	...	...	...	...	...	...
		Spacing	...	...	...	...	...	...	...	...
		Scantling and Sketch	...	...	...	...	...	...	...	...
		Bearing Surface	...	...	...	...	...	...	...	...
FORE AND AFTERS	{	Number	...	...	...	...	...	...	...	...
		Spacing	...	...	...	...	...	...	...	...
		Unsupported Lengths	...	...	...	...	...	...	...	...
		Scantling* and Sketch	...	...	...	...	...	...	...
HATCH COVERS	{	Material	...	...	...	...	...	...	...	...
		Thickness	...	...	...	...	...	...	...	...
		How fitted	...	...	...	...	...	...	...	...
		Bearing Surface	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...	...
Number of Tarpaulins	...	...	...	...	...	...	...	...	...	...

*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 :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

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

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

Particulars of Gangway Cargo and Coaling Ports :—

Particulars of Scuppers and Sanitary Discharge Pipes —

Particulars of Side Scuttles :

Particulars of Guard Rails :—

Particulars of Gangways, Lifelines, etc. :—

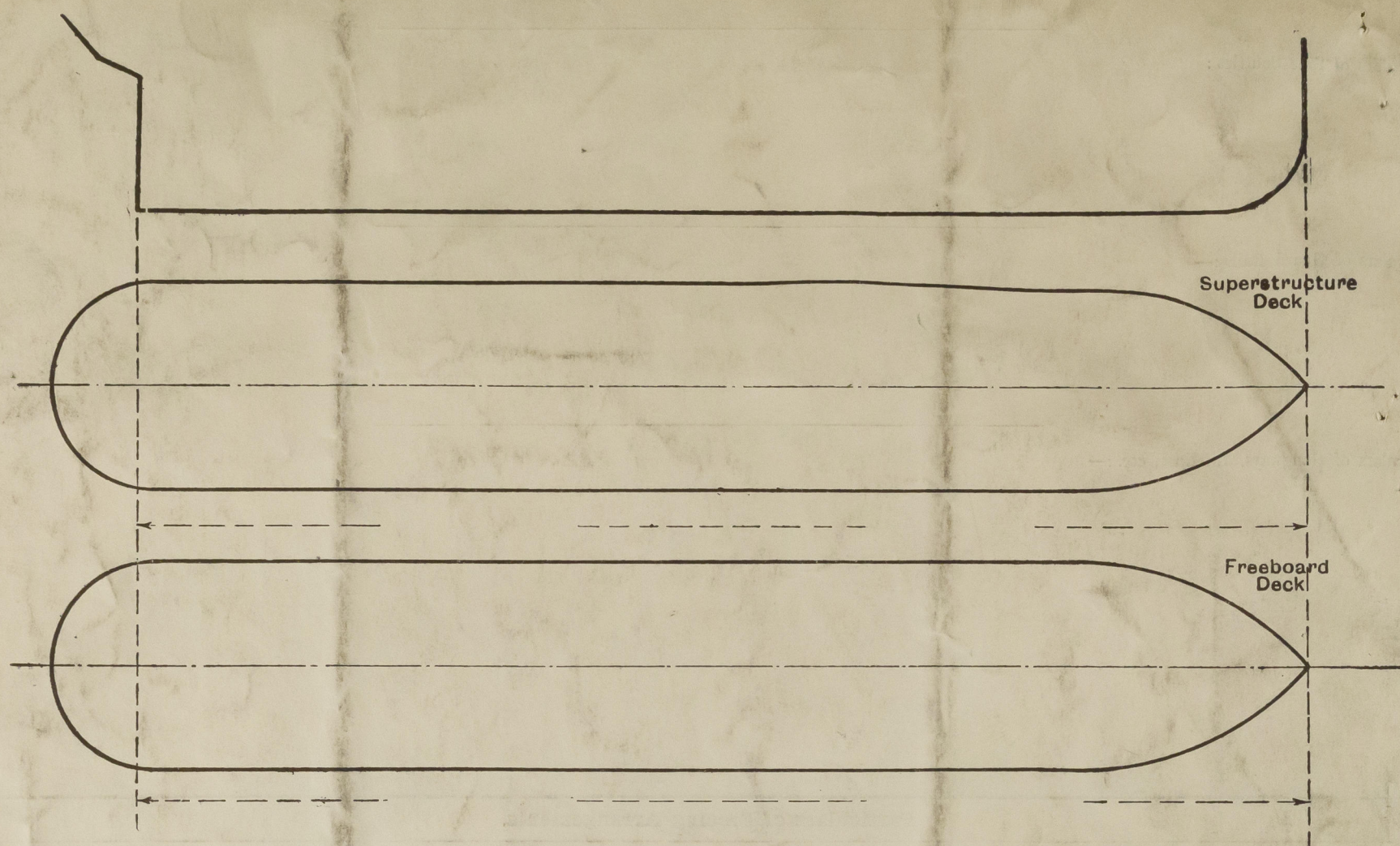
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well ...						
Forward Well ...						

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.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ...								
Bridge, Forward Bulkhead ...								
Forecastle Bulkhead ...								
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 ...	
Raised Quarter Deck Bulkhead ...	
Bridge, After 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:—



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

Builder's name and yard number

A.B. Sölvén Yards No 466.

Names of sister ships

There are copies of the approved plans in the Larn Office

Owners

affixed fee 182:00

Received by me



© 2020

Lloyd's Register
Foundation