

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

F. 21.

Computation of Freeboard for ~~Steamer~~ Sailing Ship, Tanker

having

R.Q.D. Trunk + Forecastle

Port of Survey

LISBON.

Date of Survey

5<sup>th</sup> Decr. 1932.

Name of Surveyor

G.T.B. Seullard.

Ship's Name

SUNFLOWER

Nationality and Port of Registry

PORTUGUESE.  
LISBON.

Official Number

Gross Tonnage

Date of Build

1083

1925.

Moulded Dimensions: Length 200'4" Breadth 36'83" Depth 15'0 1/4" x 2 1/8"

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

Coefficient of fineness for use with Tables 788

Particulars of Classification +100A1

S.S. N°1 - 29.

Carrying petroleum in bulk

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	15'02"	(a) Where D is greater than Table depth (D - Table depth) R = (15'06" - 13'33") x 1.538 = + 2'66"		Moulded Breadth (B)	36'83"
Stringer plate	04"	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	8'84"
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	-			Ship's Round of Beam	9'25" ✓
Depth for Freeboard (D) =	15'06"	If restricted by superstructures		Difference	41"
				Restricted to	18'95"
				Correction = $\frac{\text{Diff}^*}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{41}{4} (1 - 8105) = -102$ ✓

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...	80'5"	80'50"	3'3"	3'25"	71'34"
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	31'33"	31'33"	7'0"	✓	31'33"
" overhang ...					
Trunk aft ...	50'28"	50'28"	3'3"	3'25"	27'24"
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	111'83"	162'11"			129'91"

Standard Height of Superstructure	6'00"
" " R.Q.D.	3'667"
Deduction for complete superstructure	26'00"
Percentage covered $\frac{S}{L} =$	55.91%
" " $\frac{S_1}{L} =$	81.05%
" " $\frac{E}{L} =$	64.95%
Percentage from Table, Line A. Tanks	57.44%
(corrected for absence of forecastle (if required))	
Percentage from Table, Line B.	
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction =	26.00 x 57.44 = 14.94

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	30'00"	1		30'00"	17'62"	17'62"	1		17'62"
1/2 L from A.P. ...	13'35"	4		53'40"	6'81"	6'81"	4		27'24"
2/3 L " ...	3'30"	2		6'60"	1'7"	1'70"	2		3'40"
Amidships ...	-	4		0	0	0	4		-
2/3 L from F.P. ...	6'60"	2		13'20"	4'46"	4'46"	2		8'92"
1/2 L " ...	26'70"	4		106'80"	17'88"	17'88"	4		71'52"
F.P. ...	60'00"	1		60'00"	41'62"	41'62"	1		41'62"
Total ...				270'00"					170'32"

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( 75 - \frac{S}{2L} \right) = \frac{270'00 - 170'32}{18} \left( 75 - \frac{170'32}{2 \times 200'4"} \right) = \frac{99'68}{18} \left( 75 - 2795 \right) = + 2'60"$

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 = 15'06"

Summer freeboard = 1'27"

Moulded draught (d) = 13'79"

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 3'45" = 88"

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 =

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

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	2'66"	-
Deduction for superstructures	-	14'94"
Sheer correction	2'60"	-
Round of Beam correction	-	02"
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	5'26"	14'96"

Summer Freeboard = 15'23"

## 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	"

15'23" = 387'4"

18'68" = 475'4"

Lloyd's Register  
Foundation



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	N <sup>o</sup> 1	N <sup>o</sup> 2 P.S.	N <sup>o</sup> 3 P.S.	N <sup>o</sup> 4 P.S.	To fore or aft bulkhead	To side bulkhead	Number of bulkheads	After bulkhead	
Dimensions of Hatchway	7'8" x 10'	7'8" x 6'6"	5'9" x 6'6"	7'6" x 7'	3'0" x 1'11"	3'10" x 7'0"	3'10" x 2'	1'11" x 2'	
COAMINGS									
Height above Deck	30"	8"	8"	30"	24"	7'3"	30"	20"	
Thickness	4 1/2"	4 1/2"	4 1/2"	4 1/2"	4 1/2"				
Stiffeners	5 1/2" x 3 1/2" x 3 1/2"								
Brackets, Stays									
HATCH BEAMS									
Number	1			1					
Spacing	3'10"	oil	oil	3'9"					
Scantling and Sketch	3" x 3 1/2" x 4"	Tanks	Tanks	angle 4" x 4"					
Bearing Surface	3"			8 1/11"					
FORE AND AFTERS									
Number									
Spacing									
Unsupported Lengths									
Scantling and Sketch									
Bearing Surface									
HATCH COVERS									
Material	W.P.	Steel plate		W.P.		Steel, oil	Steel, oil		
Thickness	2 1/2"	2 1/2"		2 1/2"		1 1/2"	1 1/2"		
How fitted	F x A	3/4" bolts		2 3/4"		2 3/4"	2 3/4"		
Bearing Surface	3"	1/2" thick							
Spacing of Cleats	27"			25"					
Number of Tarpaulins	2			2					

\*Are wood fore and afters steel shod at all bearing surfaces? *No*  
 Are battens and wedges efficient and in good condition? *No*  
 Are tarpaulins in good condition and in accordance with rule requirements? *No*  
 Are lashings provided in accordance with rule requirements? *No*

## Particulars of fiddle, funnel and ventilator coamings:-

Stakeholder gratings closed by hinged steel covers.  
 Ventilators in good condition.  
 Engine room skylight of steel strongly constructed.

## Particulars of Flush Bunker Scuttles:-

*None*

## Particulars of Companionways:-

One on forecabin, entrance to crew's quarters, opening 3'8" x 3'0";  
 door 4'10" x 2'5" size 19".

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

*Efficient means of closing provided*  
*wood plugs & canvas covers being made*  
 File 1-9 1/2" x 3 1/2" file store; 3-9 1/2" x 31" + 2-6" x 30" crew quarters  
 No N<sup>o</sup> 1 - 2-12" x 36"; 1 N<sup>o</sup> 4, 2-12" x 36". To pump room 2-15" x 36" with  
 gauge wire on cover.

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

*Efficient means of closing provided*  
*wood plugs being made*  
 On file 1-3' x 21". Off against bulwark after bulk 1-2' x 29".

## Particulars of Gangway, Cargo and Coaling Ports:-

One P.S. side aft on R.Q.D. gangway doors in bulwark 2'7" x 2'6". Fastened  
 by one 1" slip bolt.

TEMARA

## Particulars of Scuppers and Sanitary Discharge Pipes:-

W.C. discharges fitted with R.H. valves. Lavatory discharges for Mr. Bathin  
 no valves. Lavatory discharges from crew's quarters & file through scupper in file  
 bulkhead to main deck.

## Particulars of Side Scuttles:-

Side scuttles strongly constructed with efficient draughts.

## Particulars of Guard Rails:-

File 1'8", 3'2". Spacing of stanchions 5'2"  
 Bulk 1'8", 3'2"

## Particulars of Gangways, Lifelines, etc.:-

*None*

## 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 R.Q.D.	80'	40"	2'10" x 14"	5	16.5	16 6/8
Forward Well	88'	40"	3'0" x 15"	4	15	15 5/8

State position of each freeing port ... *R.Q.D.* ... *Forward Well* ...  
 (F. and A. position and height above deck edge) ... *After Well* ... *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
Forward Bulkhead		1/2"	7" x 2 1/2" x 3/8"	28"	-	4'6" x 20"	17"	7'3"
Raised Quarter Deck Bulkhead		5/16"	7" x 3" x 1/4"	36"	-	-	-	3'3"
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead	3/8"	1/2"	7" x 2 1/2" x 5/16"	27"	-	4'10" x 2'6"	4'10"	7'3"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	3/8"	5/16"	7" x 2 1/2" x 1/2"	36"	brackets top	4'8" x 21"	19"	7'3"
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).

Forward Bulkhead	Hinged	Watertight steel door, operated both sides, not at all
Raised Quarter Deck Bulkhead		Is not
Bridge, After Bulkhead		
Bridge, Forward Bulkhead		1 1/2" steel door, to crew quarters, operated both sides
Forecastle Bulkhead		
Exposed Machinery Casings on Freeboard or Raised Quarter Decks		Is not
Exposed Machinery Casings on Superstructure Decks		
Machinery Casings within Superstructures not fitted with Class I Closing Appliances		
Deckhouses on Flush Deck Ships		



