

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

 Index. No. 24319  
 (For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having DAVID W. BRANCH & LUTON

SANTA OLIVIA (Type of Superstructures.)

Ship's Name "EQUADOR" Nationality and Port of Registry S. Francisco United States Gross Tonnage 1915 Date of Build 1915

Moulded Dimensions: Length 380 Breadth 48.5 Depth 27.5

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

Coefficient of fineness for use with Tables .76 assumed

Port of Survey \_\_\_\_\_

Date of Survey 5-6-31

Name of Surveyor \_\_\_\_\_

Particulars of Classification + 100 A1  
"Awning deck"

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)	48.50
Stringer plate	... .04	(27.54 - 25.33) 2.923 =	+6.46	Standard Round of Beam = $\frac{B \times 12}{50}$	11.64
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	9.00
$T \left( \frac{L-S}{L} \right) =$				Difference	2.64
Depth for Freeboard (D) =	27.54	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	.66(1-1) = Nil

## 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 ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...					

*Complete superstructure*

Standard Height of Superstructure 7.30

" " R.Q.D. 5.733

Deduction for complete superstructure 40.67

Percentage covered  $\frac{S}{L} = 100$

" "  $\frac{S_1}{L} = 100$

" "  $\frac{E}{L} = 100$

Percentage from Table, Line A.  
(corrected for absence of forecastle (if required)) } 100%

Percentage from Table, Line B.  
(corrected for absence of forecastle (if required)) }

Interpolation for bridge less than 2L (if required)

Deduction = 40.67 x 1.00 = - 40.67

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	48.06	1	48.00	40.00	45.40	1	45.40
$\frac{1}{6}L$ from A.P. ...	21.36	4	85.44		20.20	4	80.80
$\frac{2}{6}L$ " ...	5.28	2	10.56		4.99	2	9.98
Amidships ...		4				4	
$\frac{2}{6}L$ from F.P. ...	10.56	2	21.12		10.49	2	20.98
$\frac{1}{6}L$ " ...	42.72	4	170.88		42.45	4	169.80
F.P. ...	96.00	1	96.00	90.00	95.40	1	95.40
Total ...			432.00				422.36

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{9.64}{18} (.75 - .50) = +.13$

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 = \_\_\_\_\_ Ft.  
Summer freeboard = \_\_\_\_\_  
Moulded draught (d) = \_\_\_\_\_

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 6.13

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

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

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{.764 \cdot 68}{1.36} = \frac{1.44}{1.36}$$

Depth Correction ... 6.46  
Deduction for superstructures ... 40.67  
Sheer correction ... .13  
Round of Beam correction 2.62  
Correction for Thickness of Deck amidships ...  
Other corrections, scantlings, etc. 7.9

Summer Freeboard = 130.79

## SUMMER FREEBOARD

Tropical Fresh  
Fresh Water L.  
Tropical Line  
Winter Line  
Winter North

Approximate Summer freeboard from top of wood deck = 10' 10 $\frac{3}{4}$ "Corresponding freeboard from steel deck = 10' 8"

Freeboard as assigned by the American Bureau

= 10' 6 $\frac{1}{2}$ "



PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	Sides	...	...	...	...	...	...	...	...
	Ends	...	...	...	...	...	...	...	...
	Stiffeners	...	...	...	...	...	...	...	...
	Brackets, Stays	...	...	...	...	...	...	...	...
HATCH BEAMS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
FORE AND AFTERS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Unsupported Lengths	...	...	...	...	...	...	...	...
	Scantling* and Sketch	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
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	...	...	...	...	...	...	...	...