

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Index. No. 36832
(For London Office only).

Ship's Name "SOCOTRA"	Official Number 168430	Nationality and Port of Registry BRITISH LONDON	Gross Tonnage 7840	Date of Build 1943	Port of Survey Glasgow
Moulded Dimensions: Length 455.72 Breadth 62.5 Depth 40.75					Date of Survey while building
Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons					Surveyor's Signature R. Dunsmuir
Coefficient of fineness for use with Tables .702 (Estimated)					Particulars of Classification + 100 A1 "with Fbd." (contemplated)

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth ...	40.75	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	62.50
Stringer plate ...	68	(40.81 - 30.39) 3 = +31.26"		Standard Round of Beam = $\frac{B \times 12}{50}$ =	15.00
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	10.42	Ship's Round of Beam =	15.50
Depth for Freeboard (D) =	40.81	If restricted by superstructures	✓	Difference	.50
				Restricted to	
				Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right)$ =	$\frac{.50}{4} \times .9078 = .11$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
.. overhang ...					
R.Q.D. enclosed ...					
.. overhang ...					
Bridge enclosed ...					
.. overhang aft ...					
.. overhang forward					
F'cle enclosed Equi. ...	42.01	42.01	7.5	✓	42.01
.. overhang ...					
Trunk aft ...					
.. forward ...					
Tonnage opening aft ...					
.. forward					
Total ...	42.01	42.01			42.01

Standard Height of Superstructure	7.5
.. .. R.Q.D.	✓
Deduction for complete superstructure	42
Percentage covered $\frac{S}{L} =$	
.. .. $\frac{S_1}{L} =$	9.22
.. .. $\frac{E}{L} =$	
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	4.61
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	✓
Interpolation for bridge less than 2L (if required)	✓
Deduction =	42 x .0461 = 1.94

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	55.57	1	✓	55.57	42.25	42.25	1	✓	42.25
1/4 L from A.P. ...	24.73	4		98.92	17.43	17.43	4		69.72
1/2 L " ...	6.11	2		12.22	4.31	4.31	2		8.62
Amidships ...	-	4		-	-	-	4		-
3/4 L from F.P. ...	12.22	2		24.44	12.63	12.60	2		25.20
1/4 L " ...	49.45	4		197.80	50.68	50.58	4		202.32
F.P. ...	111.14	1		111.14	114.00	113.77	1		113.77
Total ...				500.09					461.88

Mean actual sheer aft	Mean standard sheer aft = .73		
Mean actual sheer forward	Mean standard sheer forward = Excess		
Length of enclosed superstructure forward of amidships =			
.. .. aft of ..	Def. sheer		
Stand. Aft.	S.M.	Act. Aft.	
55.57	1	42.25	1
24.73	3	17.43	3
6.11	3	4.31	3
0	1	0	1
148.09		107.47	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{38.21}{18} (.75 - .0461) = 1.49$

If limited on account of midship superstructure.

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

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.68 + .702}{1.36} = 1.382/1.36$
Depth to Freeboard Deck = 40.81	Δ = 16.40	
Summer freeboard = 11.87	Tons per inch immersion at summer load water line	
Moulded draught (d) = 28.94	T = 55.22	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7.23 = 7 1/4"	Deduction = $\frac{\Delta}{40T}$ inches = 7.31 = 7 1/4"	
Addition for Winter North Atlantic Freeboard (if required) = ✓		

Depth Correction	31.26
Deduction for superstructures	1.94
Sheer correction	1.49
Round of Beam correction	.11
Correction for Thickness of Deck amidships	
Other corrections, scantlings, etc. to correspond to a Summer Moulded Draught of 28'-11 1/4"	20.96
Summer Freeboard =	142.50

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

Tropical Fresh Water Line above Centre of Disc ...	14 1/2"	Tropical Fresh Water Freeboard ...	10' - 10 1/2"
Fresh Water Line " " ...	7 1/4"	Fresh Water " " ...	11' - 3 1/4"
Tropical Line " " ...	7 1/4"	Tropical " " ...	11' - 3 1/4"
Winter Line below " " ...	7 1/4"	Winter " " ...	12' - 5 3/4"
Winter North Atlantic Line " "	Winter North Atlantic " "

"SOCOTRA"

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.



Forecastle:

$$\begin{array}{r}
 2.25 \times \frac{10}{22.25} = 1.01' \\
 \underline{41.00} \\
 42.01'
 \end{array}$$

Trade of ship.....

Names of sister ships.....

Builder's name and yard number.....

Owners.....

Fee £.....



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Foundation