

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

now under the flag of Venezuela registered at Maracaibo 12/10/38 16359

Ship's Name SMITH'S DOCK CO LTD 1038 "AVILA"	Official Number 166529	Nationality and Port of Registry British London	Gross Tonnage 1635.17	Date of Build 1938	Port of Survey MIDDLESBROUGH.
Moulded Dimensions: Length 255.5 Breadth 45.5 Depth 17.56					Date of Survey WHILE BUILDING.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 3683. tons					Surveyor's Signature C. J. B. Lower
Coefficient of fineness for use with Tables .744					Particulars of Classification 100 A.1 CARRYING PETROLEUM IN BULK.

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 17.56	(a) Where D is greater than Table depth (D - Table depth) R = (17.62 - 17.00) 1.961 = + 1.22	Moulded Breadth (B) 45.5
Stringer plate04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{45.5 \times 12}{50} = 10.92$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 12
Depth for Freeboard (D) = 17.62		Difference 1.08
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.08^2}{4} \times .5552 = .15$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	70.11	70.92	8.9-7.9		70.92	Standard Height of Superstructure 6.05
„ overhang92					„ „ R.Q.D.
R.Q.D. enclosed ...						Deduction for complete superstructure 31.50
„ overhang ...						Percentage covered $\frac{S}{L} = \frac{46.43}{44.48}$
Bridge enclosed ...						„ $\frac{S_1}{L} = \frac{44.48}{44.48}$
„ overhang aft ...						„ $\frac{E}{L} = \frac{44.48}{44.48}$
„ overhang forward ...						Percentage from Table, Line A. Tanker 35.48
F'cle enclosed ...	37.6	37.50	8.0-11.0		37.50	(corrected for absence of forecastle (if required))
„ overhang ...	11.0	5.00			5.00	Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
„ forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction = 31.50 x .3548 = 11.17
„ „ forward ...						
Total ...	118.42	113.42			113.42	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	35.50	1		35.50	10.0	10.00	1		10.00	Mean actual sheer aft =
1/4 L from A.P. ...	15.80	4		63.20		2.20	4		8.80	Mean standard sheer aft =
1/2 L „ ...	3.90	2		7.80			2			Mean actual sheer forward =
Amidships ...		4					4			Mean standard sheer forward =
3/4 L from F.P. ...	7.80	2		15.60			2			Length of enclosed superstructure forward of amidships =
1/4 L „ ...	31.60	4		126.40		2.20	4		8.80	„ „ aft of „ =
F.P. ...	71.00	1		71.00	12.0	12.00	1		12.00	
Total ...				319.50					39.60	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{279.90}{18} \left(.75 - \frac{.5179}{2 \times 113.42} \right) = \frac{279.90}{18} (.75 - .0227) = + 8.05$

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 $\frac{.744 + .68}{1.36} = \frac{1.424}{1.36}$
Depth to Freeboard Deck = 17.62	$\Delta = \frac{3706}{40} = 92.65$	Depth Correction ... 1.22
Summer freeboard = 2.65	Tons per inch immersion at summer load water line	Deduction for superstructures ... 11.17
Moulded draught (d) = 14.97	$T = \frac{23.5}{40} = .5875$	Sheer correction ... 8.05
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.74 = 3 3/4	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction15
Addition for Winter North Atlantic Freeboard (if required) = 3.74 + 2.55 = 6.31 = 6 1/4	$\frac{3706}{40 \times 23.5} = 3.95 = 4$	Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ...
		Summer Freeboard = 31.87

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

Tropical Fresh Water Line above Centre of Disc ...	7 1/4	Tropical Fresh Water Freeboard ...	2 1/4
Fresh Water Line „ „ „ „	4	Fresh Water „ „ „ „	2 3/4
Tropical Line „ „ „ „	3 3/4	Tropical „ „ „ „	2 1/4
Winter Line below „ „ „ „	3 3/4	Winter „ „ „ „	2 1/2
Winter North Atlantic Line „ „ „ „	6 1/4	Winter North Atlantic „ „ „ „	3 1/2

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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.

Trade of ship.....

Names of sister ships..... ✓

Builder's name and yard number MESSRS SMITH'S DOCK CO. LTD. No 1038

Owners ANGLO-AMERICAN OIL CO. LTD.

Fee £

2. be charged



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Lloyd's Register
Foundation

Avila