

Kassas 35866
Sutherland 36273 (Similar Ship)
Merchant Prince 36082

Index No. 362
(For London Office only).

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No 32998

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Motor Ship's Name "ANTAR"	Official Number 168066	Nationality and Port of Registry British London	Gross Tonnage 5222 5323 net 1447.66 15/1/50	Date of Build 1940	Port of Survey Sunderland
Moulded Dimensions: Length 421.12 Breadth 56.21 Depth 29.00					Date of Survey Whilst building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12184 tons					Surveyor's Signature C. A. Millar
Coefficient of fineness for use with Tables $\frac{12184 \times 35}{421.21 \times 56.21 \times 29 \times .85} = .731$					Particulars of Classification 100A1 with freeboard. Contemplated

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth 29.00	(a) Where D is greater than Table depth (D - Table depth) R = 88 "	Moulded Breadth (B) 56.21
Stringer plate04	(29.04 - 28.04) 3 = +2.91 "	Standard Round of Beam = $\frac{B \times 12}{50} = 13.49$
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 = ✓	Ship's Round of Beam = 14.00
Depth for Freeboard (D) = ✓ 29.04	If restricted by superstructures ✓	Difference .51
		Restricted to
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.51}{4} \left(1 - \frac{.0069}{.9932} \right) = 0$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	32.83	32.83		✓	32.83
" overhang29	.14			.14
R.Q.D. enclosed ...	-	-			-
" overhang ...	-	-			-
Bridge enclosed ...	380.42	380.42	9.00	✓	380.42
" overhang aft ...	2.62	1.96			1.96
" overhang forward ...					
Fore enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	4.96	2.89	2 diff.	✓	2.89
" " forward ...					
Total ...	421.12	418.24			418.24

Standard Height of Superstructure	7-6 ✓
" " R.Q.D.	- ✓
Deduction for complete superstructure	42.00
Percentage covered $\frac{S}{L} =$	100.00 ✓
" $\frac{S_1}{L} =$	99.321
" $\frac{E}{L} =$	99.321
Percentage from Table, Line A.	99.165
(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 =	42 x .99165 = -41.654

Shear at 2nd SK = 1/2 upper deck ✓

SHEER CORRECTION.

Standard Tween Deck Height = 7-6"

Actual " " 9-0

Difference 1-6

= 18"

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.11	1		52.11	59.87	77.87	1		77.87
1/8 L from A.P. ...	23.19	4		92.76	26.44	34.65	4		138.60
3/8 L " ...	5.73	2		11.46	6.56	8.57	2		17.14
Amidships ...	-	4		-	-	-	4		-
5/8 L from F.P. ...	11.46	2		22.92	13.44	15.23	2		30.46
7/8 L " ...	46.38	4		185.52	53.66	61.83	4		246.52
F.P. ...	104.22	1		104.22	120.00	138.50	1		138.50
Total ...		✓		468.99	+18"				649.89

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{180.90}{18} (.75 - .50) = -2.50$

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	78.17
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.731 + .68}{1.36} = \frac{1.411}{1.36} \times 78.17 =$	81.10
Depth to Freeboard Deck = 29.04	$\Delta = 12884$		
Summer freeboard = 3.32	Tons per inch immersion at summer load water line	Depth Correction 2.91	
Moulded draught (d) = 25.72	T = 48.31	Deduction for superstructures 41.65	
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40 T}$ inches	Sheer correction 2.38	
Winter freeboard = $\frac{d}{4}$ inches = 6 1/2	= 12884	Round of Beam correction 48	
Addition for Winter North Atlantic Freeboard (if required) = ✓	= 6 3/4 ✓	Correction for Thickness of Deck amidships -	
		Other corrections, scantlings, etc. 88	
		2.91 44.15 41.24	
		Summer Freeboard = 39.88	

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

Tropical Fresh Water Line above Centre of Disc ...	✓ 13 1/4
Fresh Water Line " " ...	✓ 6 3/4
Tropical Line " " ...	✓ 6 1/2
Winter Line below " " ...	✓ 6 1/2
Winter North Atlantic Line " " ...	-

Tropical Fresh Water Freeboard ...	31 3/4
Fresh Water " " ...	21 2 1/2
Tropical " " ...	21 9
Winter " " ...	21 9 1/4
Winter North Atlantic " " ...	31 10 1/4

15 NOV 1940

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 *Ocean going.*

Names of sister ships *M/V "Merchant Prince" Sld. Rpt No. 32700*

Builder's name and yard number *Wm Doxford & Sons Ltd No 668.*

Owners

Fee £ *16. 0. 0*

Will be charged on completion



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