

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>AROSA KULM</b> (EX PROTEA)	Official Number	Nationality and Port of Registry <b>PANAMENIAN</b> <b>PANAMA</b>	Gross Tonnage	Date of Build <b>1920</b>	Port of Survey <b>BREMERHAVEN</b>
Moulded Dimensions: Length <b>437.0'</b> Breadth <b>58.0'</b> Depth <b>48.5'</b>				Date of Survey <b>DECEMBER, 1952</b>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>20.750 m<sup>3</sup></b> (ON <b>41.225'</b> MOULDED DRAUGHT)				Surveyor's Signature <b>C. J. B. C. C.</b>	
Coefficient of fineness for use with Tables <b>.701</b>				Particulars of Classification <b>*100A1</b> <b>PROMENADE DECK WITH FREEBOARD</b>	

<b>DEPTH FOR FREEBOARD (D).</b> Moulded depth ... <b>48.50</b> Stringer plate ... <b>.06</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) = \frac{2.50 \times 134}{12 \times 437} = .06$ Depth for Freeboard (D) = <b>48.56</b>	<b>DEPTH CORRECTION.</b> (a) Where D is greater than Table depth $(D - \text{Table depth}) R = (48.62 - 29.13) 3 = +58.47"$ (b) Where D is less than Table depth (if allowed) (Table depth - D) R = If restricted by superstructures	<b>ROUND OF BEAM CORRECTION.</b> Moulded Breadth (B) = <b>58.00'</b> Standard Round of Beam = $\frac{B \times 12}{50} = 13.92"$ Ship's Round of Beam = <b>NIL</b> Difference = <b>13.92</b> Restricted to Correction = $\frac{\text{Diff.}}{4} \times (1 - \frac{S_1}{L}) = \frac{13.92}{4} \times .8780 = 3.04"$
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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 EQUIV	<b>54.63</b>	<b>54.63</b>	<b>7.70</b>		<b>54.63</b>
" overhang aft	<b>2.80</b>		<b>7.70</b>		
" overhang forward	/	/	/	/	/
Fore enclosed	/	/	/	/	/
" overhang	/	/	/	/	/
Trunk aft	/	/	/	/	/
" forward	/	/	/	/	/
Tonnage opening aft	/	/	/	/	/
" forward	/	/	/	/	/
Total	<b>54.63</b>	<b>54.63</b>			<b>54.63</b>

SEE SPECIAL FEATURES

Standard Height of Superstructure **7.50'**

" " R.Q.D. **✓**

Deduction for complete superstructure **42.00"**

Percentage covered  $\frac{S}{L} =$  **12.50'**

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

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

Percentage from Table, Line A. **6.25**

(corrected for absence of forecastle (if required)) **1.25**

Percentage from Table, Line B. **7.90**

(corrected for absence of forecastle (if required)) **2.90**

Interpolation for bridge less than .2L (if required) **1.25 + 1.65 x .125 = 2.25**

Deduction = **42.00 x .0228 = .96"**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<b>53.70</b>	1		<b>53.70</b>			1		
1/4 L from A.P.	<b>23.90</b>	4		<b>95.60</b>			4		
1/2 L	<b>5.91</b>	2		<b>11.82</b>			2		
Amidships		4					4		
3/4 L from F.P.	<b>11.82</b>	2		<b>23.64</b>			2		
1/4 L	<b>47.79</b>	4		<b>191.16</b>			4		
F.P.	<b>107.40</b>	1		<b>107.40</b>			1		
Total				<b>483.30</b>					<b>NIL</b>

Mean actual sheer aft =  
Mean standard sheer aft = } **Deficient.**

Mean actual sheer forward =  
Mean standard sheer forward = }

Length of enclosed superstructure forward of amidships = **Deficient**

" " aft of " = **sheer**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{483.30}{18} (.75 - .0625) = +18.46"$

If limited on account of midship superstructure. **✓** 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 = **48.77**

Summer freeboard = **23.77**

Moulded draught (d) = **25.00**

Deduction for Tropical freeboard and addition for

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

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Tons per inch immersion at summer load water line

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

$\frac{d}{4} = 6.25"$   
 $\approx 159 \frac{1}{4}"$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{.701 + .68}{1.36} = \frac{1.381}{1.36}$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, corresponding to an all seasons moulded draught of 25'-0"

**83.07**

**84.35**

**58.47**

**18.46**

**3.04**

**1.78**

**120.11**

**201.86**

**1.96**

**+200.90**

**Summer Freeboard = 285.25**

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

Tropical Fresh Water Line above Centre of Disc	<b>159 1/4"</b>	Tropical Fresh Water Freeboard	<b>724 5/8"</b>
Fresh Water Line	<b>159 "</b>	Fresh Water	<b>708 6/8 "</b>
Tropical Line	<b>NIL "</b>	Tropical	<b>724 5/8 "</b>
Winter Line below	<b>NIL "</b>	Winter	<b>724 5/8 "</b>
Winter North Atlantic Line	<b>"</b>	Winter North Atlantic	<b>"</b>



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.

Bridge.

Length at centre 53.50 /  
+  $2.2 \times \frac{27.8}{54.2}$  1.13 /  
Equivalent length 54.63 /

Trade of ship UNRESTRICTED

Names of sister ships NONE

Builder's name and yard number CONVERTED DECEMBER 52 - JANUARY, 1953 AT BREMERHAVEN

Owners CIA. INTERNACIONAL TRANSPORTADORA, PANAMA

Fee £ 33: 0 : 0.



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