

# LLOYD'S REGISTER OF SHIPPING

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## SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, ~~SAILED~~ ~~SHIP~~ ~~TANKER~~)

For LONDON OFFICE ONLY

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Ship's Name <b>ARJELOG</b>	Official Number <b>9636</b>	Nationality and Port of Registry <b>Swedish Stockholm</b>	Gross Tonnage <b>About 10100 10805</b>	Date of Build <b>1956 1</b>	Port of Survey <b>Gothenburg</b>
Moulded Dimensions: Length <b>140.255 m.</b> Breadth <b>19.507 m.</b> Depth <b>12.954 m.</b>					Date of Survey <b>Whilst building</b>
Freeboard Length <b>140.505 m.</b> to CL of rudder stock corr. sp. a moulded draught = <b>8300 mm.</b>					Surveyor's Signature <i>Boje Polun</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>23940 m<sup>3</sup></b>					Particulars of Classification <b>+100A1 Ore Carrier</b>
Coefficient of fineness for use with Tables .....					Scantlings suitable for a summer moulded draught of 27'-6".

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <b>12954</b>	(a) Where D is greater than Table depth (D - Table depth) R = <b>833(12954 - 9367)30 = 901</b>	Moulded Breadth (B) <b>19.507 m.</b>
Stringer plate <b>18.5 mm</b> ... <b>0.019</b>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <b>3.606</b>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{19.507 \times 12}{50} = 4.68168$
Wood Sheathing on exposed deck	If restricted by superstructures	Ship's Round of Beam $\frac{B \times 12}{50} = 4.68168$
$T \left( \frac{L-S}{L} \right) =$		Difference <b>14</b>
Depth for Freeboard (D) = <b>12.973</b>		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{14}{4} \times 0.7034 = 2.4619$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	See sketch	29300	2530	—	29300
" overhang ...	29300				
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cie enclosed <i>Eqm</i> ...	See sketch	12379	2829	—	12379
" overhang ...	12379				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	41679	41679			41679

Standard Height of Superstructure **2-29 m**" " R.Q.D. **—**Deduction for complete superstructure **1067 m/m**Percentage covered  $\frac{S}{L} =$ " "  $\frac{S_1}{L} =$ " "  $\frac{E}{L} =$ Percentage from Table, Line A. **14.83**

(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 = **1067 x 14.83 = 158 m/m**

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
CL of rudderstock	1424	1	1424	240	480	1	480		
1/4 L from A.P. ...	634	4	2536	23	33	4	132		
2/4 L " ...	157	2	314	0	—	2	—		
Amidships ...	0	4	0	0	0	4	0		
2/4 L from F.P. ...	313	2	626	0	—	2	—		
1/4 L " ...	1268	4	5072	10	10	4	40		
F.P. ...	2849	1	2849	424	424	1	424		
Total ...			12821				1076		

Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{11745}{18} = 652.5$ 

If limited on account of midship superstructure.

 $\left( \frac{S}{2L} \right) = \frac{11745}{2 \times 140.255} = 41.8$ 

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

## Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **12058**  
 Summer freeboard = **2676**  
 Moulded draught (d) = **8382**  
 Keel allowance = **—**  
 Extreme draught = **—**  
 Deduction for Tropical freeboard and addition for = **—**

Winter freeboard =  $\frac{d}{48}$  inches = **175**

Addition for Winter North Atlantic Freeboard (if required) =

## Deduction for Fresh Water.

Displacement in salt water at summer load water line  $\Delta = 17827$   
 Tons per inch immersion at summer load water line  $T = 60.66$   
 Deduction =  $\frac{\Delta}{40 T}$  inches = **187 m/m**

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient **-193 + 68 = -1473/136**Depth Correction **901**Deduction for superstructures **158**Shear correction **393**Round of Beam correction **25**Correction for Thickness of Deck amidships **915**Other corrections, scantlings, etc. **968**Summer Freeboard = **3671**

## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Mod. Steel, Deck

Tropical Fresh Water Line above Centre of Disc **362 m/m**  
 Fresh Water Line " **18.7**  
 Tropical Line " **17.5**  
 Winter Line below " **17.5**  
 Winter North Atlantic Line " **—**

Tropical Fresh Water Freeboard **331.4**  
 Fresh Water " **348.9**  
 Tropical " **350.1**  
 Winter " **385.1**  
 Winter North Atlantic " **—**

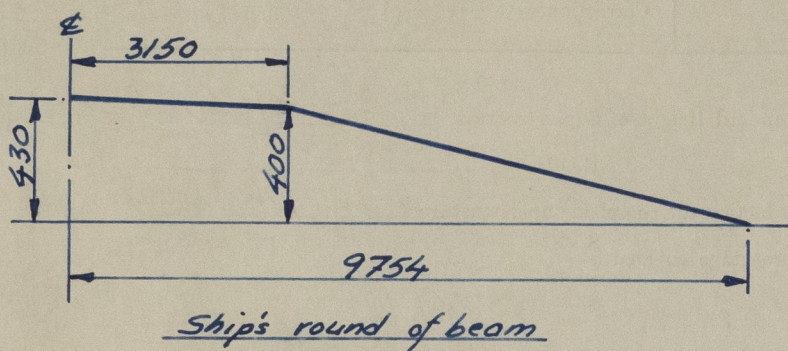
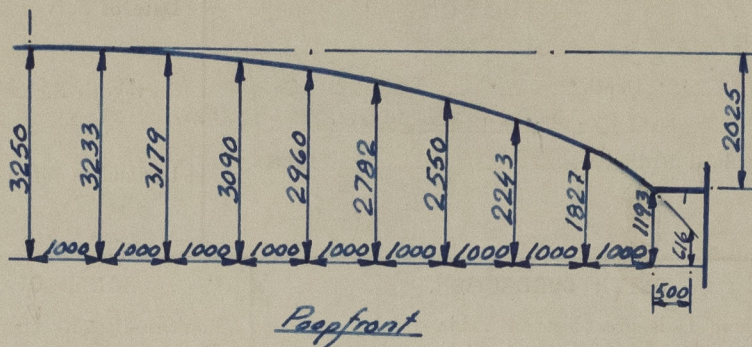


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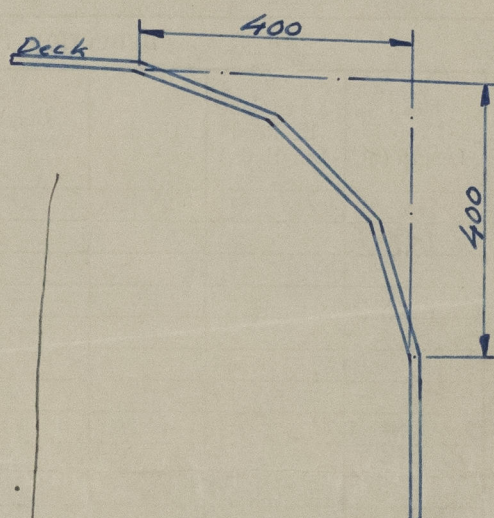
A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Displacement and tons per inch immersion.

Draught	Displacement	Tons per inch.
75%	21120	62.1
85%	24320	63.5
95%	27520	64.9



$$\begin{aligned} \text{Equip camber} &= \left( \frac{.415 \times 3.15 + .4 \times 6.604}{2} \right) \frac{3}{2 \times 9.750} \\ &= \frac{2.628 \times 3}{2 \times 9.750} = 404 \text{ m/m.} \end{aligned}$$



Forecastle

Equip length.

$$\begin{aligned} 13355 - 1.511 \times 5.075 \\ \hline 7.800 \\ = 13355 - .976 \\ = 12379 \text{ m/m} \end{aligned}$$

Shear apt.

$$\begin{aligned} \text{Shear at } L/6 &= 240 \times \left( \frac{5.883}{29.300} \right)^2 + 23 \\ &= 33 \text{ m/m} \end{aligned}$$

Trade of ship International, Ore Carrier.

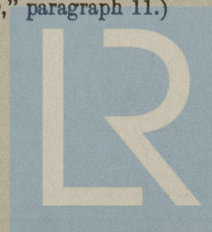
Names of sister ships m/s "Abisko" A-B. Götaverken, Yard No. 710. 145872

Builder's name and yard number A.-B. Götaverken, Yard No. 711

Owners Trafik A-B. Grängesberg - Oxelösund, (Erland Waldenström, Mgr.) Stockholm.

Fee £ : :

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950," paragraph 11.)



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Foundation