

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>4 Mast Bk "PAMIR"</b> (No. 02072 in the Register Book)	Official Number <b>825</b>	Nationality and Port of Registry <b>Finnish Helsinki</b>	Gross Tonnage <b>2799</b>	Date of Build <b>1905-10</b>	Port of Survey <b>Göteborg</b>
Moulded Dimensions: Length <b>310.0</b> ✓ Breadth <b>46.0</b> ✓ Depth <b>27.83</b> ✓					Date of Survey <b>8-11 Sept. 1939</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>7228</b> ✓ tons					Surveyor's Signature <b>T. Widen</b>
Coefficient of fineness for use with Tables <b>.75 (.72 maximum)</b> ✓					Particulars of Classification <b>* 100 A.1.</b>

<b>Depth for Freeboard (D).</b> Moulded depth <b>CORRECTED FOR RISE OF FLOOR</b> <b>27.77</b> ✓ Stringer plate ... <b>.04</b> ✓ Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) = .29 \times .6119$ ✓ <b>.18</b> ✓ Depth for Freeboard (D) = <b>27.99</b> ✓	<b>Depth correction.</b> (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(27.99 - 25.83) (1 + 1.34) = +4.84$ ✓ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ If restricted by superstructures	<b>Round of Beam correction.</b> Moulded Breadth (B) <b>46.0</b> ✓ Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>11.04</b> ✓ Ship's Round of Beam = <b>11</b> ✓ Difference <b>.04</b> ✓ Restricted to Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.04}{4} \times .6228 = +.01$ ✓
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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 ...	17.0 ✓	17.0 ✓	4'6" CENTRE		17.00 ✓	Standard Height of Superstructure <b>6.60</b> ✓
" overhang ...	.75 ✓	.37 ✓	4'0" SIDE		.37 ✓	" " R.Q.D.
R.Q.D. enclosed ...						Deduction for complete superstructure <b>26.0</b> ✓
" overhang ...						Percentage covered $\frac{S}{L} =$ <b>38.81</b> ✓
Bridge enclosed, equin...	63.87 ✓	63.87 ✓	4'6"		63.87 ✓	" " $\frac{S_1}{L} =$ <b>37.72</b> ✓
" overhang aft ...	3.37 ✓	2.53 ✓	"		2.53 ✓	" " $\frac{E}{L} =$ <b>37.72</b> ✓
" overhang forward ...	.58 ✓	.29 ✓	"		.29 ✓	Percentage from Table, Line A.
F'cle enclosed (1/2 L) ...	32.87 ✓	32.87 ✓	4'9"		32.87 ✓	(corrected for absence of forecastle (if required)) ✓
" overhang ...	4.66 ✓	2.33 ✓				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 = <b>26.0 × .2972 = -7.73</b> ✓
" forward ...						
Total ...	120.32 ✓	116.93 ✓			116.93 ✓	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	41.00 ✓	1		41.00 ✓	37.0	37.00 ✓	1		37.00 ✓	Mean actual sheer aft = Deficient > .75 of standard ✓
1/2 E from A.P. ...	18.24 ✓	4		72.96 ✓	16.0	16.00 ✓	4		64.00 ✓	Mean actual sheer forward = Excess ✓
2/3 " ...	4.51 ✓	2		9.02 ✓	3.5	3.50 ✓	2		7.00 ✓	Mean standard sheer forward
Amidships ...	-	4		-	0	-	4		-	Length of enclosed superstructure forward of amidships =
2/3 L from F.P. ...	9.02 ✓	2		18.04 ✓	11.5	11.50 ✓	2		23.00 ✓	" " aft of " =
1/2 L " ...	36.48 ✓	4		145.92 ✓	37.0	37.00 ✓	4		148.00 ✓	
F.P. ...	82.00 ✓	1		82.00 ✓	92.5	92.50 ✓	1		92.50 ✓	
Total ...				368.94 ✓					371.50 ✓	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{2.56}{18} \left( .75 - \frac{1940}{5560} \right) = -.08$  ✓

If limited on account of midship superstructure.

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

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <b>28.16</b> ✓ Summer freeboard = <b>5.69</b> ✓ Moulded draught (d) = <b>22.47</b> ✓ Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>5.62 = 143 mm</b> ✓ Addition for Winter North Atlantic Freeboard (if required) = <b>3" = 76 mm</b> ✓	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line $T =$ Deduction = $\frac{\Delta}{40T}$ inches $\frac{2}{4} = 143 \text{ mm}$ ✓	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient $\frac{.72 + .62}{1.24} = \frac{1.34}{1.24}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>+</th> <th>-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction ...</td> <td>4.84</td> <td>-</td> </tr> <tr> <td>Deduction for superstructures ...</td> <td>-</td> <td>7.73 ✓</td> </tr> <tr> <td>Sheer correction ...</td> <td>-</td> <td>.08 ✓</td> </tr> <tr> <td>Round of Beam correction ...</td> <td>.01</td> <td>-</td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td>1.34</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc. ...</td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td>16.19</td> <td>7.81</td> </tr> </tbody> </table> Summer Freeboard = <b>68.30</b> ✓		+	-	Depth Correction ...	4.84	-	Deduction for superstructures ...	-	7.73 ✓	Sheer correction ...	-	.08 ✓	Round of Beam correction ...	.01	-	Correction for Thickness of Deck amidships ...	1.34	-	Other corrections, scantlings, etc. ...	-	-		16.19	7.81
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## SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ...	143 mm ✓	Tropical Fresh Water Freeboard ...	1592 ✓
Fresh Water Line " " ...	143 " ✓	Fresh Water " " ...	1592 ✓
Tropical Line " " ...	146 ✓	Tropical " " ...	1735 ✓
Winter Line below " " ...	146 ✓	Winter " " ...	1735 ✓
Winter North Atlantic Line " " ...	76 mm ✓	Winter North Atlantic " " ...	1735 ✓

20 OCT 1939



the Surveyor should endorse the form on this side with his signature and the date.

Bridge = 66.00 ✓  
- Recoon  $\frac{3.25 \times 29}{44.5}$  ✓ = 2.13 ✓  
63.87 ✓

$$= 2.12 + 1.25 = \underline{\underline{3.37}}$$
$$= 36$$
$$= \frac{34.5}{1.5}$$
$$= \frac{1.5}{12} \times \frac{1}{2} = .06$$

Depth for Freeboard (D) = 27.77'

Fee £