

AMENDED COMPUTATION.

Rpt. C.11 (Comp.).

Index No. 28527  
(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <b>PROTEA</b>	Official Number	Nationality and Port of Registry <b>Parana</b> <b>Parana</b>	Gross Tonnage <b>7488</b>	Date of Build <b>1920</b>	Port of Survey
Moulded Dimensions: Length <b>437.0</b> Breadth <b>58.0</b> Depth <b>40.0</b>					Date of Survey <b>16.8.48</b>
Moulded Displacement at moulded draught = 85 per cent. of moulded depth <b>13,250</b> tons					Surveyor's Signature
Coefficient of fineness for use with Tables <b>.68 (Actual less)</b>					Particulars of Classification <b>+100A1</b> <b>Plater Deck with freeboard.</b>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... .. 40.00	(a) Where D is greater than Table depth (D-Table depth) R = <b>(40.06-29.13) 3.00 = 32.79</b>	Moulded Breadth (B) <b>58.0</b>
Stringer plate ... .. .06	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>✓</b>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>13.92</b>
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures <b>✓</b>	Ship's Round of Beam = <b>NIL</b>
Depth for Freeboard (D) = <b>40.06</b>		Difference
		Restricted to
		Correction = $\frac{\text{Diff}^c}{4} \times \left( 1 - \frac{S}{L} \right) = \frac{13.92}{4} \times .3193 = 1.11$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poep enclosed ... ..	80.25	80.25	8.5	✓	80.25	Standard Height of Superstructure <b>7.5</b>
" overhang ... ..						" " R.Q.D. ... ..
R.Q.D. enclosed ... ..						Deduction for complete superstructure <b>42.00</b>
" overhang ... ..						Percentage covered $\frac{S}{L} =$
Bridge enclosed ... ..	135.00	135.00	8.5	✓	135.00	" " $\frac{S_1}{L} =$ } <b>68.07</b>
" overhang aft ... ..						" " $\frac{E}{L} =$
" overhang forward ... ..						Percentage from Table, Line A. <b>59.72</b>
File enclosed ... ..	82.25	82.25	8.5	✓	82.25	(corrected for absence of forecastle (if required))
" overhang ... ..						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>42.00 x .5972 = 25.08</b>
" " forward ... ..						
Total ... ..	297.50	297.50			297.50	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	53.70	1		53.70			1		
1/2 L from A.P. ... ..	23.90	4		95.60			4		
3/4 L " ... ..	5.91	2		11.82			2		
Amidships ... ..		4					4		
1/2 L from F.P. ... ..	11.82	2		23.64			2		
3/4 L " ... ..	47.79	4		191.16			4		
F.P. ... ..	107.40	1		107.40			1		
Total ... ..				483.32					NIL

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

Mean actual sheer forward  
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =  
L

" " aft of " =

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{483.32}{18} (.75 - .3403) = 11.00$

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	
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	corrected for Flush Deck (if required)	83.07
Depth to Freeboard Deck = <b>40.06</b>	$\Delta =$	Correction for coefficient $\frac{.68 - .68}{1.36}$	83.07
Summer freeboard = <b>12.06</b>	Tons per inch immersion at summer load water line	Depth Correction ... .. 32.79	
Moulded draught (d) = <b>28.00</b>	T =	Deduction for superstructures ... .. 25.08	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>✓</b>	Deduction = $\frac{\Delta}{40 T}$ inches	Sheer correction ... .. 11.00	
for Winter North Atlantic Freeboard (if required) = <b>✓</b>	$\frac{d}{4} = 7" = 178 \text{ mms}$	Round of Beam correction ... .. 1.11	
		Correction for Thickness of Deck amidships ... ..	
		Other corrections, scantlings, etc. correspond to an all seasons moulded draught of 28'-0"	
		Summer Freeboard = <b>12.06 + 6.68 = 18.74</b>	

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

Tropical Fresh Water Line above Centre of Disc ... ..	178 mms	Tropical Fresh Water Freeboard ... ..	34.99 "
Fresh Water Line " " ... ..	178 mms	Fresh Water " " ... ..	34.99 "
Tropical Line " " ... ..	NIL	Tropical " " ... ..	36.77 "
Winter Line below " " ... ..	NIL	Winter " " ... ..	36.77 "
Winter North Atlantic Line " " ... ..	-	Winter North Atlantic " " ... ..	-

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