



## TIVAR 1000

Properties	Test Methods	Units	Values
Density	ISO 1183-1	g/cm <sup>3</sup>	0.93
Average molar mass (average molecular weight)	-	10 <sup>6</sup> g/mol	5
Water absorption at saturation in water of 23°C	-	%	< 0.1
<b>Thermal Properties</b>			
Melting temperature (DSC, 10°C/min)	ISO 11357-1/-3	°C	135
Thermal conductivity at 23°C	-	W/(m.K)	0.40
Average coefficient of linear thermal expansion between 23 - 100°C	-	m/(m.K)	200 x 10 <sup>-6</sup>
Temperature of deflection under load:			
- method A: 1.8 Mpa	ISO 75-1/-2	°C	42
Max. allowable service temperature in air:			
- for short periods	-	°C	120
- continuously: for 20,000 hrs	-	°C	80
Min. service temperature	-	°C	-200
Flammability:			
- "Oxygen Index"	ISO 4589-1/-2	%	< 20
- according to UL 94 (6mm thickness)	-	-	HB
<b>Mechanical Properties at 23°C</b>			
Tension test:			
- tensile stress at yield	ISO 527-1/-2	MPa	19
- tensile strain at yield	ISO 527-1/-2	%	15
- tensile strain at break	ISO 527-1/-2	%	> 50
- tensile modulus of elasticity	ISO 527-1/-2	MPa	750
Compression test			
- compressive stress at 1 / 2 / 5 % nominal strain	ISO 604	MPa	6.5 / 10.5 / 17
Charpy impact strength - Unnotched	ISO 179-1/1eU	kJ/m <sup>2</sup>	no break
Charpy impact strength - Notched	ISO 179-1/1eA	kJ/m <sup>2</sup>	115P
Charpy impact strength - Notched (double 14° notch)	ISO 11542-2	kJ/m <sup>2</sup>	170
Ball indentation hardness	ISO 2039-1	N/mm <sup>2</sup>	33
Shore hardness D	ISO 868	-	60
Relative volume loss during a wear test in "sand / water-slurry"; Tivar 1000 = 100	ISO 15527	-	100
<b>Electrical Properties at 23°C</b>			
Electric strength	IEC 60243-1	kV/mm	45
Volume resistivity	IEC 60093	Ohm.cm	>10 <sup>14</sup>
Surface resistivity	IEC 60093	Ohm	>10 <sup>12</sup>
Relative permittivity ε <sub>r</sub> : - at 100 Hz	IEC 60250	-	2.1
Relative permittivity ε <sub>r</sub> : - at 1 MHz	IEC 60250	-	3
Dielectric dissipation factor tan δ : - at 100 Hz	IEC 60250	-	0.0004
Dielectric dissipation factor tan δ : - at 1 MHz	IEC 60250	-	0.0010
Comparative tracking index (CTI)	IEC 60112	-	600

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