

**Polyimide Physical Properties**

Mechanical Data	
Density	1.42 g/cm <sup>3</sup>
Flexibility	180° bend, no cracks
Elongation	>10%
Tensile Strength	15,000 psi
Optical Data	
Refractive Index	1.78
Thermal Data	
Melting Point	None
Final Decomposition Temperature	560°C
Coefficient of Thermal Expansion	2 x 10 <sup>-5</sup> /°C
Coefficient of Thermal Conductivity	37 x 10 <sup>-5</sup> cal/(cm) (sec) (°C)
Flammability	Self-extinguishing
Specific Heat	0.26 cal/gm/°C

Electrical data	
Dielectric Strength	4000 volts/mil
Volume Resistivity	10 <sup>16</sup> ohm-cm
Surface Resistivity	10 <sup>16</sup> ohm
Dielectric Constant	3.5
Gas Permeability	
Carbon Dioxide [cc/100in <sup>2</sup> (24 hours) (atm/mil)]	45
Hydrogen	250
Nitrogen	6
Oxygen	25
Helium	415

**Polyimide Physical Properties - Chemical Resistance**

Resistance To:	# of Days	% of Tensile	% of Elongation
Benzene	365 @ 23°C	100	82
Toluene	365 @ 23°C	99	91
Methanol	365 @ 23°C	100	73
Acetone	365 @ 23°C	67	62
10% Sodium Hydroxide	5 @ 23°C	Degrades	Degrades
Transformer Oil	180 @ 150°C	100	100
Water pH = 1	14 @ 150°C	65	30
pH = 7	166 @ 100°C	65	20
pH = 10	5 @ 23°C	60	10