PI

Thermal decomposition temperature is as high as 600℃, making it one of the most thermal stability varieties among polymers.

Mechanical properties

Ultimate Tensile Strength	70 - 230 MPa
Yield Strength	60 - 200 MPa
Young's Modulus (Modulus of Elasticity)	2 - 3 GPa
Elongation at Break	5 - 10 %
Hardness	80 - 90 Shore D

Physical properties

UV Resistance	Excellent

Thermal properties

Maximum Service Temperature	260 - 300 °C
Thermal Expansion Coefficient	20 - 50 × 10^-6/°C
Thermal Conductivity	0.1 - 0.35 W/(m·°C)

Electrical properties

ESD Safety	No

Common applications

Aerospace components	
High-temperature insulators	
Flexible printed circuits	
Semiconductor industry	
Adhesives and coatings	

PI (Polyimide) CNC Machining Applications & Parts

As a high-performance polymer capable of withstanding extreme temperatures and harsh chemical environments, PI is the material of choice for the most demanding aerospace, automotive, and semiconductor applications.

Typical Parts We Machine from PI:

- **High-Temperature Components:** Thermal Insulators, Bushings, Seals, Washers
- **Precision Aerospace & Automotive:** Thrust Washers, Valve Seats, Guide Rings
- **Electrical Insulation:** Semiconductor Wafer Handling Components, Test Socket Insulators

Our Machining Advantage:

Our experience with advanced polymers allows us to hold ultra-tight tolerances on PI parts, even when machining complex thin-walled geometries for critical use.

Get an Instant Quote for your custom Polyimide parts today