

# Polyimide Coating

Polyimide (PI)

## Overview-

Polyimide (PI) is a group of high performing polymers known for their exceptional chemical, thermal, and mechanical performance properties. Polyimides generally demonstrate excellent thermal stability in high as well as low temperatures. Polyimides also exhibit broad chemical resistance and good dielectric properties. Polyimides are poor conductors of heat and are highly disinclined to burn; they are also radiation resistant. These properties and others have made polyimides widely used in industries including medical, aerospace, automotive, electronics, chemical, sensors, and more.

Zeus polyimide tubing can be produced in extremely small dimensions, yet it retains strength and pushability whether for vascular catheters or non-medical deployments. Polyimide can also be provided as a coating for over-the-wire (OTW; PI insulated wire) applications. Polyimide coating for electrical leads provides insulation in addition to a low-friction surface for easier positioning or placement. Polyimide can also be provided in a layered composite-type construction to further tailor tubing or coating properties.



BIOCOMPATIBLE



CHEMICAL RESISTANCE



TEMPERATURE RESISTANCE



*Polyimide (PI) is available in many custom sizes and colors.*

## APPLICATIONS

- Catheters
  - Vascular
  - Structural heart
  - Electrophysiology
  - Urinary
- Lumen for guidewires
- Lead wire delivery devices
- Stone retrieval devices
- Vascular closure devices

## AVAILABLE PRODUCTS

- Tubing
  - Coated wire
  - Guidewires
  - Pull wires
  - Lead wires (insulated wire)
- Composite / multi-layer constructions



## KEY PROPERTIES




- Class VI biocompatibility
- Temperature tolerance to 220 °C / 428 °F
- Thermal stability
- Good dielectric properties
- UL 94 V-0 flammability rated
- Chemical resistance






# Polyimide

## *Polyimide (PI)*

PHYSICAL		ASTM	PI
	Density (g/cm <sup>3</sup> )	ASTM D792	1.44
	Radiation Resistance (MRad)		Very Good

MECHANICAL		ASTM	PI
	Ultimate Tensile Strength (MPa)	ASTM D638	239
	Elongation at Break (%)	ASTM D638	105
	Coefficient of Friction	D1894	0.48

ELECTRICAL		ASTM	PI
	Dielectric Constant 1 MHz	ASTM D150	3.7
	Dielectric Strength (V/mil)	ASTM D149	7757

THERMAL		ASTM	PI
	Decomposition Temp (°C)	AIR	504

*The information presented in this publication is believed to be accurate and is not intended to constitute a specification. Property characteristics are dramatically impacted by geometry and processing method, thus properties of extruded parts may vary. In some instances, data may not be available for publication and will be notated as “na” where applicable. These tables are meant to serve as a general guideline only. Users should evaluate the material to determine suitability for their own particular application.*