

## Tough Radiation-Resistant Filament

Z-PEEK is one of the strongest polymers on the planet. It has strength-to-weight ratio comparable to stainless steel and exceptional thermal properties. The material can withstand thermal-cycling in vacuum chambers used for space-qualification tests, radiation, or wear in over 22 million cycles in PEEK-steel gear pairs working at 1600 rpm.

### Applications

- space-industry components,
- out-of-cabin aircraft components,
- radiation-resistant parts,
- abrasion-resistant mechanical parts.

Mechanical Properties	Metric	Imperial	Test Method
Tensile Strength	100 MPa	14500 psi	ISO 527
Tensile Modulus	3720 MPa	540 ksi	ISO 527
Elongation at Break	28%	28%	ISO 527
Flexural Strength	130 MPa	18900 psi	ISO 178
Flexural Modulus	2700 MPa	392 ksi	ISO 178
Thermal Properties	Metric	Imperial	Test Method
Glass Transition Temperature	143° C	289° F	DSC
Deflection Temperature, annealed	160° C at 1.80 MPa	320° F at 261 psi	ISO 75
Fire Testing*	Metric	Imperial	Test Method
Flamability Rating (*Base Resin)	V-0 @1.5mm	V-0 @1.5mm	UL 94
Other Properties	Metric	Imperial	Test Method
Density	1.30 g/cm <sup>3</sup>	10.8 lb/gal	ISO 1183

The data presented in this document are intended for information and comparison purposes only. They should not be used for project specifications or its quality evaluation. The material's actual properties depend on the printing process conditions, the design structure and its purpose, test conditions, etc.

Product specifications are subject to change without notice.

Each user is responsible for complying with product safety standards, its intended use as well as the law and waste disposal (and recycling) rules for electrical and electronic equipment. Zortrax does not make any express or implied warranties, including but not limited to implied warranties of merchantability or fitness for a particular purpose.

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