PK 5000 Powder

Technical Data Sheet

Product Description

Our PolyKetone is an eco-friendly and non-toxic engineered polymer made from carbon monoxide and olefins.

PK 5000 provides the perfect balance of key mechanical properties resulting in a polymer that's strong, tough and ductile.

PolyKetone is a resilient polymer that performs well in applications where low friction and wear resistance are paramount. With very good elongation and excellent impact strength, mechanical performance remains stable through a variety of environmental conditions with little to no laser window occlusion in full-stroke builds.

Advantages

In addition to a wide processing window, other advantages include:

- Low temperature impact strength
- Excellent chemical resistance and barrier properties
- Improved wear and friction over Polyamides
- Low toxicity
- Low carbon footprint

Storage and Use

PK 5000 must be processed in an inert environment. Recommend storing material in a closed container in a dry environment.

Properties

Mechanical Properties			
	Test Condition	Typical Value	Method
Tensile Modulus (MPa)	XY coupons	1305	ASTM D638*
	Z coupons	1349	
Ultimate Tensile Strength (MPa)	XY coupons	53	
	Z coupons	51	
Elongation at Break (%)	XY coupons	41	
	Z coupons	21	
Flexural Modulus (MPa)	XY coupons	1028	ASTM D790*
	Z coupons	1068	
Flexural Strength (MPa)	XY coupons	41	
	Z coupons	42	
Izod Impact Energy, notched (J/m)	XY coupons	83	ASTM D256*
	Z coupons	70	
Izod Impact Energy, un-notched (J/m)	XY coupons	1241	
	Z coupons	776	
Izod Impact Strength, notched (kJ/m^2)	XY coupons	8	ASTM D256*
	Z coupons	7	
Izod Impact Strength, un-notched (kJ/m^2)	XY coupons	95	
	Z coupons	59	

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Other Physical Properties			
	Test Condition	**Typical Value**	**Method**
Part Color / Appearance	Ambient	Black	Visual
Part Density (g/cm^3)	Ambient	1.23	ASTM D792
Bulk Density (g/cm^3)	Ambient	0.51	ASTM D1895
Melt Temperature (°C)	Ambient	197	DSC
Particle Size Distribution (µm)	D10	35	Laser Diffraction
	D50	50	
	D90	76	
Heat Deflection Temperature (°C)	0.455 MPa	157	ASTM D648*
	1.8 MPa	126	

*Tested dry, as printed

Disclaimer: The information in this technical data sheet, including material properties, are obtained from testing representative samples under carefully controlled conditions and are provided for reference only. Material properties may be impacted by storage, handling, processing equipment/parameters, and product design, among other factors. The information is not a substitute for user testing to determine fitness for any specific use and the user is responsible for ensuring safe and lawful use of the product.

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