

POLYAMIDE-IMIDE (PAI) - Glass-filled

KEY FEATURES

- Excellent Weather and Gamma Radiation Resistance
- Outstanding Bearing and Wear Properties
- High Strength and Stiffness Properties
- Excellent Electrical Values
- Good Chemical Resistance
- Maintains a High Proportion of Mechanical Properties Over a Broad Temperature Spectrum (Cryogenic to 500°F)

DESCRIPTION

High Performance melt processable polyamide-imide (PAI), that maintains its excellent mechanical and wear properties in temperature environments exceeding 500°F. Glass-filled PAI is a 30% glass filled grade, compression molded with superior stiffness and dimensional stability. It is available in a wide variety of custom tube, ring, rod and plate sizes.

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			PAI	
	Filler			Glass Fibers	
	Density		g/cm ³	1.58	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI		
	Tensile Strength @ Yld	@ 73 °F	PSI		
	Tensile Strength @ Brk	@ 73 °F	PSI	17,000	D638
	Shear Strength	@ 73 °F	PSI		
	Elongation @ Yld	@ 73 °F	%		
	Elongation @ Brk	@ 73 °F	%	2	D638
	Flexural Modulus	@ 73 °F	PSI	821,000	D790
	Flexural Strength	@ 73 °F	PSI	21,000	D790
	Compressive Modulus	@ 73 °F	PSI		
	Compressive Strength	@ 73 °F, 10% strain	PSI		
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	0.75	D256
	Rockwell Hardness	@ 73 °F	M (R) Scale	116	D785
	Coefficient of Friction	Static			
	Wear (K) Factor		in ³ -min/ft-lbs-hr		
Limiting PV		psi-fpm			

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Thermal	Vicat Softening Point		°F		
	Melting Temperature		°F		
	Heat Deflection Temperature	@ 66	°F		
	Heat Deflection Temperature	@ 264	°F		
	Service Temperature	Intermittent	°F		
	Service Temperature	Long Term	°F	500	
	Thermal Expansion (CLTE)		in/in/°F	2.11*10 ⁻⁵	D696
	Specific Heat		BTU/lb-°F		
	Thermal Conductivity		BTU-in/hr-ft ² -°F		
Electrical	Surface Resistivity		ohms/square		D648
	Volume Resistivity		ohm-cm		
	Dielectric Strength		V/mil	450	D149
	Dielectric Constant	@ 60 Hz, 73 °F 50% RH			
	Dissipation Factor	@ 30 ghz		0.0008	D150
Other	Moisture Absorption	@ 24 hrs, 73 °F	%		
	Moisture Absorption	@ Saturation, 73 °F	%		
	Flammability	UL 94			
	Food Grade			N	
	Relative Cost			\$\$ \$\$ \$	\$\$ \$\$ \$

*The data stated above are typical values intended for reference and comparison purposes only.

*The data should not be used as a basis for design specifications or quality control.

*The information is provided as a guide to the best of our knowledge and given without obligation or liability.

*Testing under individual application circumstances is recommended.