EAGLE PERFORMANCE PLASTICS
Custom Machined Plastic Components

POLYAMIDE-IMIDE (PAI) - Bearing Grade

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^{o}F)

DESCRIPTION

High performance melt processable polyamide-imide (PAI), that maintains its excellent mechanical and wear properties in temperature environments exceeding 500^{o}F. Bearing Grade PAI offers high PV capabilities in bearing applications, primarily at high loads and low speeds.

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			PAI	
	Filler			Lubricated	
	Density		g/cm^3	1.46	D792
Mechanical	Tensile Modulus	@ 73 ˚F	PSI		
	Tensile Strength @ Yld	@ 73 ˚F	PSI		
	Tensile Strength @ Brk	@ 73 ˚F	PSI	19,000	D638
	Shear Strength	@ 73 ˚F	PSI		
	Elongation @ Yld	@ 73 ˚F	%		
	Elongation @ Brk	@ 73 ˚F	%	10	D638
	Flexural Modulus	@ 73 ˚F	PSI	870,000	D790
	Flexural Strength	@ 73 ˚F	PSI	23,000	D790
	Compressive Modulus	@ 73 ˚F	PSI		
	Compressive Strength	@ 73 ˚F, 10% strain	PSI		
	Izod (charpy) Impact Strength	@ 73 ˚F	ft-lbs/in	2	D256
	Rockwell Hardness	@ 73 ˚F	M (R) Scale	109	D785
	Coefficient of Friction	Static			
	Coefficient of Friction	Dynamic, 40PSI, 50 FPM			
	Wear (K) Factor		in^3-min/ft-lbs-hr		
	Limiting PV		psi-fpm		

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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	534	D648
	Service Temperature	Intermittent	°F		
	Service Temperature	Long Term	°F	500	
	Thermal Expansion (CLTE)		in/in/°F		
	Specific Heat		BTU/lb-°F		
	Thermal Conductivity		BTU-in/hr-ft^{2}-°F		
Electrical	Surface Resistivity		ohms/square		
	Volume Resistivity		ohm-cm		
	Dielectric Strength		V/mil		
	Dielectric Constant	@ 60 Hz, 73 °F 50% RH			
	Dissipation Factor	@ 60 Hz, 73 °F			
Other	Moisture Absorption	@ 24 hrs, 73 °F	%		
	Moisture Absorption	@ Saturation, 73 °F	%		
	Flammability	UL 94		V-0	
	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.