EAGLE PERFORMANCE PLASTICS
Custom Machined Plastic Components

POLYAMIDE-IMIDE (PAI) - Unfilled

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. Unfilled PAI is a high strength structural grade featuring good electrical properties and strength, making it ideal for demanding applications at a broad range of temperatures.

TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	ASTM Test
Physical	Chemical Designation			PAI	
	Filler				
	Density		g/cm^3	1.41	D792
Mechanical	Tensile Modulus	@ 73 °F	PSI		
	Tensile Strength @ Yld	@ 73 °F	PSI		
	Tensile Strength @ Brk	@ 73 °F	PSI	21,000	D638
	Shear Strength	@ 73 °F	PSI		
	Elongation @ Yld	@ 73 °F	%		
	Elongation @ Brk	@ 73 °F	%	15	D638
	Flexural Modulus	@ 73 °F	PSI	711,000	D790
	Flexural Strength	@ 73 °F	PSI	33,000	D790
	Compressive Modulus	@ 73 °F	PSI		
	Compressive Strength	@ 73 °F, 10% strain	PSI	30,000	D695
	Izod (charpy) Impact Strength	@ 73 °F	ft-lbs/in	2.3	D256
	Rockwell Hardness	@ 73 °F	M (R) Scale	119	D785
	Coefficient of Friction	Static			
	Wear (K) Factor		in^3-min/ft-lbs-hr		
	Limiting PV		psi-fpm		

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TYPICAL PROPERTY VALUES

	Properties	Condition	Units	Value	Value
Thermal	Vicat Softening Point		°F		
	Melting Temperature		°F		
	Heat Deflection Temperature	@ 66	°F		
	Heat Deflection Temperature	@ 264	°F	532	D648
	Service Temperature	Intermittent	°F		
	Service Temperature	Long Term	°F	500	
	Thermal Expansion (CLTE)		in/in/°F	$1.66*10^{-5}$	D696
	Specific Heat		BTU/lb-°F		
	Thermal Conductivity		BTU-in/hr-ft^2-°F		
Electrical	Surface Resistivity		ohms/square	$5.0*10^{15}$	D257
	Volume Resistivity		ohm-cm		
	Dielectric Strength		V/mil	600	D149
	Dielectric Constant	@ 60 Hz, 73 °F 50% RH			
	Dissipation Factor	@ 60 Hz, 73 °F			
Other	Moisture Absorption	@ 24 hrs, 73 °F	%	0.3	D570
	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.