

PRODUCT DATA

AURUM[®] J-3124 Thermoplastic Polyimide

TYPICAL PROPERTIES	TEST METHOD	UNITS	VALUE
PHYSICAL			
Specific Gravity	ASTM D-792	-	1.42
Filler Content	-	%	30
Mold Shrinkage	MD/TD	%	0.8/1.0
MECHANICAL			
Tensile Strength 73°F	ASTM D-638	psi (MPa)	98,700 (68)
Elongation 73°F	ASTM D-638	%	4
Flexural Strength 73°F	ASTM D-790	psi (MPa)	15,700 (108)
Flexural Modulus 73°F	ASTM D-790	psi (MPa)	410,000 (2,830)
Izod Impact Strength (notched)	ASTM D-256	ft lb/in (J/m)	1.0 (51)
THERMAL			
Melt Point	DSC	°F (°C)	730 (388)
Glass Transition Temperature	DSC	°F (°C)	482 (250)
Melt Flow Index (788°F/4.8 lbs.)	ASTM D-1238	g/10 min	4.5
Heat Deflection Temperature	ASTM D-648	°F (°C)	448 (231)

DESCRIPTION

AURUM J-3124 is a high-performance polyimide for precision injection molded components and extruded products. A member of the AURUM family of advanced engineering resins, AURUM J-3124 offers a unique balance of mechanical, thermal, and tribological properties for outstanding performance in demanding automotive, business machinery, industrial equipment, aerospace, and semiconductor equipment applications. AURUM components offer excellent mechanical strength and toughness, dimensional stability, low outgassing, and exceptional radiation resistance. In addition, AURUM exhibits outstanding resistance to hydraulic, automotive, and many industrial fluids and solvents, a low coefficient of thermal expansion, creep resistance, and flame retardancy. AURUM J-3124 withstands high PV levels and provides a low wear factor and low friction surface over a broad temperature range in both dry and lubricated environments.

INJECTION MOLDING

AURUM J-3124 can be readily injection molded in most reciprocating screw injection molding machines. AURUM resin pellets should be dried prior to melt processing on trays in an air circulation oven or desiccating hopper dryer under the following conditions: 8 hours at 428°F, 10 hours at 392°F, or 12 hours at 356°F. Cylinder temperature requirements range from 720 - 806°F. Injection pressures of 11,000 - 35,000 psi, nominal back pressures of 0-50 psi, medium to high injection velocities, and screw speeds of 100 - 200 rpm are utilized for AURUM injection molding. Mold temperatures range from 356 - 410°F. AURUM sprue and runner systems can be ground and mixed with virgin AURUM resin at 15% - 30% levels without significant loss of mechanical or wear properties for enhanced economies. AURUM can be easily purged with unfilled or glass fiber reinforced polyethersulfone, polysulfone, or polyetherimide. AURUM can be injection molded with select outer-heating design hot runner systems.

APPLICATIONS

AURUM J-3124 components are excellent replacements for metals, ceramics, and other plastics. J-3124 is designed for wear/friction applications against aluminum at high temperatures, like seal rings and copier machine parts.

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