

PRODUCT DATA

AURUM[®] XGN3030 (In Mold Crystallizable)

TYPICAL PROPERTIES	TEST METHOD	UNITS	VALUE
PHYSICAL			
Specific Gravity	ASTM D-792	-	1.59
Mold Shrinkage	MD/TD dumbbell%		0.19/1.28
MECHANICAL			
Tensile Strength	ASTM D-638	psi (MPa)	27,400 (189)
Elongation	ASTM D-638	%	1.6
Flexural Strength	ASTM D-790	psi (MPa)	41,500 (286)
Flexural Modulus	ASTM D-790	psi (MPa)	2,090,000 (14,400)
Izod Impact Strength (notched)	ASTM D-256	ft lb/in (J/m)	1.4 (76)
THERMAL			
Melt Point	DSC	°F (°C)	746 (397)
Glass Transition Temperature	DSC	°F (°C)	374 (190)
Melt Flow Index 788°F/22lbs	ASTM D-1238	g/10 min	10
Coefficient of Thermal Expansion (MD/TD) 73°F	ASTM D-696	10 ⁻⁵ /°F (10 ⁻⁵ /°C)	0.7/2.7 (1.3/4.8)
Heat Deflection Temperature	ASTM D-648	°F (°C) 1.82MPa	740 (393)

DESCRIPTION

AURUM XGN3030, which can be crystallized during injection molding, is a high performance thermoplastic polyimide for precision injection molded components and extruded products. A member of the AURUM family of advanced engineering resins, glass fiber reinforced AURUM XGN3030 offers a unique balance of mechanical and thermal properties for superior performance in demanding automotive, business machinery, industrial equipment, aerospace, and semiconductor equipment applications. AURUM exhibits outstanding resistance to chemicals and radiation, a low coefficient of thermal expansion, excellent electrical properties, and flame resistance.

INJECTION MOLDING

AURUM XGN3030 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 drier under the following conditions: 8 hours at 428°F, 10 hours at 392°F, or 12 hours at 356°F. Cylinder temperature requirements generally range from 770 - 788°F. Injection pressures of 11,000 - 20,000 psi, nominal back pressures of 0 - 50 psi, medium to high injection velocity, and screw speeds of 100 - 200 rpm are utilized for AURUM injection molding. **The most important parameter is a mold temperature. The mold temperature should be kept from 392 - 428°F, preferably 410-428°, which affects the crystallinity of the polymer.** AURUM can be easily purged with predried unfilled polyetherimide.

APPLICATIONS

AURUM XGN3030 injection molded components are excellent replacements for metals, ceramics, and other plastics. High performance AURUM XGN3030 parts include heat-resistant gears, semiconductor manufacturing and handling equipment components, and thermal and electrical insulators.

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