

Technical Literature A-01

AURUM[®]

AURUM[®] is the world's only thermoplastic polyimide that was developed by Mitsui Chemicals, Inc. by its proprietary technology. AURUM[®] is a next-generation high-performance super engineering plastic which has the moldability that any traditional polyimide resin does not possess as well the high strength and heat resistance which are inherent in a polyimide resin.

• Glass transition temperature (°C):	250
• Melting point (°C):	388
• Deflection temperature under load (°C):	(Non-crystalline resin)
Natural	238*
GF30%	243
CF30%	248
	* 0.41 MPa

Note: Although AURUM[®] is a crystalline resin, the molded articles that are obtained from it by the common injection-molding method are in a non-crystalline state because its rate of crystallization is low.

Characteristics of AURUM®

1. Super high heat resistance:
AURUM® has the world's highest glass transition temperature of 250°C and is usable up to 240°C.
2. Satisfactory sliding properties:
Low and stable coefficient of dynamic friction and low friction
3. Outstandingly clean properties:
Trace amounts of outgas and metal impurities
4. Stable in any environment:
Excellent plasma resistance, radiation resistance, electrical properties, etc.
5. Excellent dimensional stability:
Stable coefficient of thermal expansion and satisfactory creep properties

Table of Examples of Applications for Representative AURUM® Grades

Classification	Grade	Characteristics	Applications
Natural	PL450C	Heat resistance, clean, transparent (brown), tough, plasma resistance	Tube, fiber, wire coating, film, semiconductor manufacturing equipment parts
Fiber reinforcement	JCN3030	Carbon fiber reinforcement, high strength, high elasticity	Structural components (aircraft, automobiles, industrial equipment)
	JGN3030	Glass fiber reinforcement, high stiffness	Office automation equipment parts (thermal insulation bushings, gears), electric/electronic parts (sockets, connectors)
Sliding use	JCL3030	High PV against steel (non-lubricant/oil lubrication)	Automotive ATF parts (thrust washers, bushings, etc.), VCT parts, turbo parts, office automation equipment parts (thermal insulation bushings, couplings, etc.), industrial equipment parts
	JCF3030	High speed against steel (non-lubricant/oil lubrication)	Automotive ATF parts (seal rings, bushings, etc.), industrial equipment parts (sealing parts, etc.)
	JCQ6225	Against Al (oil lubrication)	Automotive ATF parts (seal rings <against ADC>)
	JNF3020	Against Al (non-lubricant)	Office automation equipment parts, industrial equipment parts
	JCR3030F	Special grade	Electric/electronic parts (HDD parts, etc.)