

Mitsui AURUM® JGN3030 Thermoplastic Polyimide Resin, Amorphous (discontinued **)

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic

Material Notes:

AURUM® is an easy melt, processable and recyclable thermoplastic polyimide resin that provides continuous service temperatures to 465° F in its amorphous state and up to 550° F when annealed to its semicrystalline state. In addition, it displays low outgassing, superior radiation resistance and excellent chemical resistance properties. Applications: Components for automotive and aircraft engines Transmission Farming, off-road and construction equipment Industrial machinery Electric motors, pumps and compressors Business machines such as laser pointers and high speed copy machines Electronic and semiconductor transport media Analytical and medical equipment Conveyors and textile equipment Information provided by Mitsui.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Mitsui-AURUM-JGN3030-Thermoplastic-Polyimide-Resin-Amorphous-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.56 g/cc	0.0564 lb/in ³	ASTM D792
Water Absorption	0.23 %	0.23 %	24 hours; ASTM D570
Moisture Absorption at Equilibrium	0.10 %	0.10 %	24 hours, 23°C, 60% RH
Linear Mold Shrinkage	0.0044 cm/cm	0.0044 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	104	104	ASTM D785
Hardness, Rockwell R	128	128	ASTM D785
Tensile Strength at Break	164.8 MPa	23900 psi	ASTM D638
Tensile Strength, Ultimate	105.9 MPa @Temperature 150 °C	15360 psi @Temperature 302 °F	ASTM D638
Elongation at Break	3.0 %	3.0 %	ASTM D638
	4.0 % @Temperature 150 °C	4.0 % @Temperature 302 °F	ASTM D638
Flexural Strength	241 MPa	35000 psi	ASTM D790
	173 MPa @Temperature 150 °C	25100 psi @Temperature 302 °F	ASTM D790
Flexural Modulus	9.51 GPa	1380 ksi	ASTM D790
	8.04 GPa	1170 ksi	

Mechanical Properties	Metric @ Temperature 150 °C	English @ Temperature 302 °F	ASTM D790 Comments
Compressive Strength	88.3 MPa	12800 psi	JIS K7208
	@Temperature 150 °C	@Temperature 302 °F	
	188 MPa	27300 psi	JIS K7208
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Modulus	2.26 GPa	328 ksi	At 150°C; JIS K7208
	3.14 GPa	455 ksi	At 23°C; JIS K7208
Shear Strength	76.5 MPa	11100 psi	JIS K7214
	@Temperature 150 °C	@Temperature 302 °F	
	81.4 MPa	11800 psi	JIS K7214
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched	1.18 J/cm	2.20 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	17.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.44 $\mu\text{in}/\text{in}\cdot\text{°F}$	MD; ASTM D696
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	17.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	9.44 $\mu\text{in}/\text{in}\cdot\text{°F}$	MD; ASTM D696
	@Temperature 200 °C	@Temperature 392 °F	
CTE, linear, Transverse to Flow	53.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	29.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	ASTM D696
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	53.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	29.4 $\mu\text{in}/\text{in}\cdot\text{°F}$	ASTM D696
	@Temperature 200 °C	@Temperature 392 °F	
Specific Heat Capacity	0.960 J/g-°C	0.229 BTU/lb-°F	By DSC
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.960 J/g-°C	0.229 BTU/lb-°F	By DSC
	@Temperature 100 °C	@Temperature 212 °F	
	1.34 J/g-°C	0.320 BTU/lb-°F	By DSC
	@Temperature 300 °C	@Temperature 572 °F	
Thermal Conductivity	0.349 W/m-K	2.41 BTU-in/hr-ft ² -°F	
Melting Point	388 °C	730 °F	

Maximum Service Temperature, Air Thermal Properties	245 °C Metric	473 °F English	Heat distortion temperature, load UNKNOW, ASTM D648
Glass Transition Temp, Tg	250 °C	482 °F	By DSC
Flammability, UL94	V-0 @Thickness 0.400 mm	V-0 @Thickness 0.0157 in	all color

Electrical Properties	Metric	English	Comments
Surface Resistance	1.00e+16 ohm	1.00e+16 ohm	
Dielectric Constant	3.7 @Frequency 1e+6 Hz	3.7 @Frequency 1e+6 Hz	ASTM D150
	3.8 @Frequency 1000 Hz	3.8 @Frequency 1000 Hz	ASTM D150
Dissipation Factor	0.0012 @Frequency 1000 Hz	0.0012 @Frequency 1000 Hz	ASTM D150
	0.0036 @Frequency 1e+6 Hz	0.0036 @Frequency 1e+6 Hz	ASTM D150

Processing Properties	Metric	English	Comments
Processing Temperature	390 - 420 °C	734 - 788 °F	Injection molding, extrusion

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