

## Mitsui AURUM® 450 Thermoplastic Polyimide Resin, Non-filled (discontinued \*\*)

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic , Thermoplastic Polyimide, Unfilled

### 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-450-Thermoplastic-Polyimide-Resin-Non-filled-nbspdiscontinued-.php](http://www.lookpolymers.com/polymer_Mitsui-AURUM-450-Thermoplastic-Polyimide-Resin-Non-filled-nbspdiscontinued-.php)

Physical Properties	Metric	English	Comments
Density	1.33 g/cc	0.0480 lb/in <sup>3</sup>	ASTM D792
Water Absorption	0.34 %	0.34 %	24 hours; ASTM D570
Moisture Absorption at Equilibrium	0.24 %	0.24 %	24 hours, 23°C, 60% RH
Linear Mold Shrinkage	0.0083 cm/cm	0.0083 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	95	95	ASTM D785
Hardness, Rockwell R	129	129	ASTM D785
Tensile Strength at Break	92.2 MPa	13400 psi	ASTM D638
Tensile Strength, Ultimate	57.9 MPa @Temperature 150 °C	8400 psi @Temperature 302 °F	ASTM D638
Elongation at Break	90 %	90 %	ASTM D638
	90 % @Temperature 150 °C	90 % @Temperature 302 °F	ASTM D638
Flexural Strength	137 MPa	19900 psi	ASTM D790
	88.3 MPa @Temperature 150 °C	12800 psi @Temperature 302 °F	ASTM D790
Flexural Modulus	2.94 GPa	426 ksi	ASTM D790
	2.55 GPa	370 ksi	

Mechanical Properties	Metric @ Temperature 150 °C	English @ Temperature 302 °F	ASTM D790 Comments
Compressive Strength	76.5 MPa	11100 psi	JIS K7208
	@Temperature 150 °C	@Temperature 302 °F	
	120 MPa	17400 psi	JIS K7208
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Modulus	1.57 GPa	228 ksi	At 150°C; JIS K7208
	2.16 GPa	313 ksi	At 23°C; JIS K7208
Shear Strength	78.5 MPa	11400 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	0.883 J/cm	1.65 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	55.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	30.6 $\mu\text{in}/\text{in}\cdot\text{°F}$	MD; ASTM D696
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	55.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	30.6 $\mu\text{in}/\text{in}\cdot\text{°F}$	MD; ASTM D696
	@Temperature 200 °C	@Temperature 392 °F	
CTE, linear, Transverse to Flow	55.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	30.6 $\mu\text{in}/\text{in}\cdot\text{°F}$	ASTM D696
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	55.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	30.6 $\mu\text{in}/\text{in}\cdot\text{°F}$	ASTM D696
	@Temperature 200 °C	@Temperature 392 °F	
Specific Heat Capacity	1.00 J/g-°C	0.239 BTU/lb-°F	By DSC
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	1.00 J/g-°C	0.239 BTU/lb-°F	By DSC
	@Temperature 100 °C	@Temperature 212 °F	
	1.42 J/g-°C	0.339 BTU/lb-°F	By DSC
	@Temperature 300 °C	@Temperature 572 °F	
Thermal Conductivity	0.174 W/m-K	1.21 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	388 °C	730 °F	

Maximum Service Temperature, Air Thermal Properties	238 °C Metric	460 °F English	Heat distortion temperature, load unknown, ASTM D648
Glass Transition Temp, Tg	250 °C	482 °F	By DSC
Decomposition Temperature	570 °C	1060 °F	5% weight reduction temperature, by DTG
Flammability, UL94	V-0	V-0	all color
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	5VA	5VA	all color
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Oxygen Index	47 %	47 %	ASTM D256
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+17 - 1.00e+18 ohm-cm	1.00e+17 - 1.00e+18 ohm-cm	ASTM D257
Surface Resistance	1.00e+17 - 1.00e+18 ohm	1.00e+17 - 1.00e+18 ohm	ASTM D257
Dielectric Constant	3.1	3.1	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	3.2	3.2	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dissipation Factor	0.00090	0.00090	ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.0034	0.0034	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

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

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215, Fengxian District, Shanghai City, China