

## Metabolix Mirelâ„ç P1004 Injection Molding Grade PHA Bioplastic

Category : Polymer , Renewable/Recycled Polymer , Thermoplastic , Polyester, TP

### Material Notes:

Mirel P1004 is a general purpose injection molding grade with high toughness. About Mirel Bioplastics Mirel is a family of bioplastic materials that have physical properties comparable to petroleum-based resins, yet are both biobased and biodegradable in natural soil and water environments, home composting systems, and industrial composting facilities, where these facilities are available. The rate and extent of Mirel's biodegradability will depend on the size and shape of the articles made from it. However, like nearly all bioplastics and organic matter, Mirel is not designed to biodegrade in conventional landfills.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Metabolix-Mirel-P1004-Injection-Molding-Grade-PHA-Bioplastic.php](http://www.lookpolymers.com/polymer_Metabolix-Mirel-P1004-Injection-Molding-Grade-PHA-Bioplastic.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D792
Linear Mold Shrinkage	0.0125 - 0.0155 cm/cm	0.0125 - 0.0155 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength	24.0 MPa	3480 psi	ASTM D638
Elongation at Break	7.0 %	7.0 %	ASTM D638
Tensile Modulus	1.60 GPa	232 ksi	ASTM D638
Flexural Strength	33.0 MPa	4790 psi	ASTM D790 A
Flexural Modulus	1.30 GPa	189 ksi	ASTM D790 A
Izod Impact, Notched	0.310 J/cm	0.581 ft-lb/in	ASTM D256 A

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	123 Â°C	253 Â°F	ASTM D648 B
Deflection Temperature at 1.8 MPa (264 psi)	36.0 Â°C	96.8 Â°F	ASTM D648 B
Vicat Softening Point	124 Â°C	255 Â°F	ASTM 1525 B10

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	175 - 180 Â°C	347 - 356 Â°F	Reverse Temperature Profile
Middle Barrel Temperature	170 - 175 Â°C	338 - 347 Â°F	
Front Barrel Temperature	165 - 170 Â°C	329 - 338 Â°F	

Nozzle Temperature Processing Properties	165 - 170 Â°C Metric	329 - 338 Â°F English	Comments
Melt Temperature	160 - 165 Â°C	320 - 329 Â°F	
Mold Temperature	55.0 - 65.0 Â°C	131 - 149 Â°F	(A/B)
Drying Temperature	80.0 Â°C @Time 7200 - 14400 sec	176 Â°F @Time 2.00 - 4.00 hour	Desiccant
Back Pressure	<= 3.45 MPa	<= 500 psi	Low
Screw Speed	<= 200 rpm	<= 200 rpm	Slow

Descriptive Properties	Value	Comments
2nd Stage Pressure	<30%	of 1st Stage Pressure (Low)
Equipment Recommendation: Non-Return Valve	Standard Check Ring	
Equipment recommendation: Screw Profile	2.2:1 to 2.6:1	Low Shear GP

## Contact Songhan Plastic Technology Co.,Ltd.

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