

Mitsui TPX® MX004 Methylpentene Copolymer

Category : Polymer , Thermoplastic , Polymethylpentene (PMP)

Material Notes:

TPX® is a 4-methylpentene-1 based polyolefin with a unique combination of transparency, heat and chemical resistant qualities. TPX is used in a wide variety of applications, including: medical equipment, laboratory ware, small appliances, ovenware, baking cartons, release paper, wire and cable coating, and a number of industrial uses. TPX is manufactured and marketed solely by Mitsui Chemicals, Inc. Applications: Injection Molded Items: Blood test cells Medical instruments Laboratory ware Coffee maker parts Cosmetic containers Extrusion Molded Items: Sight glass (pipes, sheets) Baking cartons (food containers) Release paper Wire and cable coating Films Molding Method: Injection Extrusion Information provided by Mitsui.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Mitsui-TPX-MX004-Methylpentene-Copolymer.php

Physical Properties	Metric	English	Comments
Density	0.834 g/cc	0.0301 lb/in ³	ASTM D1505
Water Absorption	0.010 %	0.010 %	24 hours; ASTM D570
Linear Mold Shrinkage	0.019 cm/cm	0.019 in/in	MPC method, MD
Linear Mold Shrinkage, Transverse	0.017 cm/cm	0.017 in/in	MPC method
Melt Flow	26 g/10 min @Load 5.00 kg, Temperature 260 °C	26 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	60	60	ASTM D785
Tensile Strength at Break	17.2 MPa	2490 psi	5mm/min; ASTM D638
Tensile Strength, Yield	19.6 MPa	2840 psi	5mm/min; ASTM D638
Elongation at Break	85 %	85 %	MPC method, 5mm/min
Modulus of Elasticity	0.740 GPa	107 ksi	Tangent; ASTM D790
Flexural Strength	24.5 MPa	3550 psi	2mm/min; ASTM D790
Flexural Stiffness	621 MPa	90000 psi	Olsen Stiffness; ASTM D747
Izod Impact, Unnotched (ISO)	48.3 kJ/m ² @Thickness 2.00 mm, Temperature 20.0 °C	23.0 ft-lb/in ² @Thickness 0.0787 in, Temperature 68.0 °F	ASTM D256
Charpy Impact, Notched	0.420 J/cm ²	2.00 ft-lb/in ²	ASTM D256

Mechanical Properties	Metric @Thickness 2.00 mm, Temperature 20.0 °C	English @Thickness 0.0787 in, Temperature 68.0 °F	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear	117 µm/m-°C @Temperature 20.0 °C	65.0 µin/in-°F @Temperature 68.0 °F	ASTM D696
Specific Heat Capacity	1.97 J/g-°C	0.471 BTU/lb-°F	ASTM C351
Thermal Conductivity	0.167 W/m-K	1.16 BTU-in/hr-ft²-°F	BS 874A
Melting Point	240 °C	464 °F	MPC Method
Deflection Temperature at 0.46 MPa (66 psi)	85.0 °C	185 °F	ASTM D648
Vicat Softening Point	160 °C	320 °F	ASTM D1525

Optical Properties	Metric	English	Comments
Refractive Index	1.463	1.463	n20 D; ASTM D542
Haze	1.0 %	1.0 %	ASTM D1746
Transmission, Visible	80 %	80 %	Mfr. indicates clear but does not quantify

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+16 ohm-cm	>= 1.00e+16 ohm-cm	ASTM D257
Dielectric Constant	2.12 @Frequency 100 - 1.00e+6 Hz	2.12 @Frequency 100 - 1.00e+6 Hz	ASTM D150
Dielectric Strength	65.0 kV/mm	1650 kV/in	ASTM D149

Descriptive Properties	Value	Comments
Appearance	Colorless transparent	
Rate of Burning	2.54 cm/min	ASTM D635

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