

Mitsui TPX® DX820 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: Paper coating Information provided by Mitsui.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Mitsui-TPX-DX820-Methylpentene-Copolymer.php

Physical Properties	Metric	English	Comments
Density	0.833 g/cc	0.0301 lb/in ³	ASTM D1505
Water Absorption	0.010 %	0.010 %	24 hours; ASTM D570
Melt Flow	180 g/10 min @Load 5.00 kg, Temperature 260 °C	180 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	80	80	ASTM D785
Tensile Strength at Break	17.2 MPa	2490 psi	5mm/min; ASTM D638
Tensile Strength, Yield	22.6 MPa	3280 psi	5mm/min; ASTM D638
Elongation at Break	20 %	20 %	MPC method, 5mm/min
Modulus of Elasticity	1.28 GPa	186 ksi	Tangent; ASTM D790
Flexural Strength	35.3 MPa	5120 psi	2mm/min; ASTM D790
Flexural Stiffness	896 MPa	130000 psi	Olsen Stiffness; ASTM D747

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-ft ² -°F	BS 874A

Melting Point Thermal Properties	240 °C Metric	464 °F English	MPC Method Comments
Vicat Softening Point	173 °C	343 °F	ASTM D1525

Optical Properties	Metric	English	Comments
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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