Mitsubishi Iupilon® FPR 3500 Polycarbonate

Categories: Polymer; Thermoplastic; Polycarbonate (PC); Polycarbonate, Molded

Material Notes: Flame retardant-2 grade. Phosphoric acid, opaque, high flowability. Used in a wide range of industries, including sports equipment, medical equipment, automobiles, optics, machinery, office automation equipment, and electronics. Superior impact strength. Superior transparency. Usability in a wide range of temperatures: -40degC to 120degC. Excellent precision molding properties and dimensional stability. Superior self-extinguishing properties. Excellent weather resistance. Excellent electrical insulation capabilities.

Information provided by Mitsubishi Engineering Plastics Corporation.

Vendors: No vendors are listed for this material. Please click here if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.19 g/cc	0.0430 lb/in³	ISO 1183
Water Absorption	0.24 % @Temperature 23.0 °C	0.24 % @Temperature 73.4 °F	Immersion
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm @Thickness 3.20 mm	0.0030 - 0.0050 in/in @Thickness 0.126 in	
Linear Mold Shrinkage, Transverse	0.0030 - 0.0050 cm/cm @Thickness 3.20 mm	0.0030 - 0.0050 in/in @Thickness 0.126 in	
Melt Flow	18 g/10 min @Load 1.20 kg, Temperature 300 °C	18 g/10 min @Load 2.65 lb, Temperature 572 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	63.0 MPa	9140 psi	ISO-527-1,2
Elongation at Break	81 %	81 %	ISO 527-1,2
Elongation at Yield	4.4 %	4.4 %	ISO 527-1,2
Tensile Modulus	2.50 GPa	363 ksi	ISO 527-1,2
Flexural Strength	98.0 MPa	14200 psi	ISO 178
Flexural Modulus	2.70 GPa	392 ksi	ISO 178
Charpy Impact Unnotched	NB	NB	ISO 179-1,2
Charpy Impact, Notched	5.00 J/cm²	23.8 ft-lb/in²	ISO 179-1,2

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+16 ohm-cm	2.00e+16 ohm-cm	IEC 60093
Surface Resistance	4.00e+15 ohm	4.00e+15 ohm	IEC 60093
Dielectric Constant	3.1 @Frequency 100 Hz	3.1 @Frequency 100 Hz	IEC 60250
	3.1 @Frequency 1.00e+6 Hz	3.1 @Frequency 1.00e+6 Hz	IEC 60250
Dielectric Strength	18.0 kV/mm @Thickness 3.00 mm	457 kV/in @Thickness 0.118 in	IEC 60243-1
	31.0 kV/mm @Thickness 1.00 mm	787 kV/in @Thickness 0.0394 in	IEC 60243-1
Dissipation Factor	0.0034 @Frequency 100 Hz	0.0034 @Frequency 100 Hz	IEC 60250
	0.0071 @Frequency 1.00e+6 Hz	0.0071 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	250 - 400 V	250 - 400 V	UL746A

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	66.0 µm/m-°C	36.7 µin/in-°F	ISO 11359-2
CTE, linear, Transverse to Flow	67.0 µm/m-°C	37.2 µin/in-°F	ISO 11359-2
Maximum Service Temperature, Air	120 °C	248 °F	
Deflection Temperature at 0.46 MPa (66 psi)	107 °C	225 °F	ISO 75-1,2
Deflection Temperature at 1.8 MPa (264 psi)	97.0 °C	207 °F	ISO 75-1,2
Minimum Service Temperature, Air	-40.0 °C	-40.0 °F	
Flammability, UL94	V-2 @Thickness 0.380 mm	V-2 @Thickness 0.0150 in	
	V-2 @Thickness 0.380 mm	V-2 @Thickness 0.0150 in	
	V-0 @Thickness 0.750 mm	V-0 @Thickness 0.0295 in	
	V-0 @Thickness 0.750 mm	V-0 @Thickness 0.0295 in	
	5VB @Thickness 2.00 mm	5VB @Thickness 0.0787 in	

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your

calculations to minimize rounding error. We also ask that you refer to MatWeb's terms of use regarding this information. Click here to view all the property values for this datasheet as they were originally entered into MatWeb.