

DUPONT Delrin® 510MP

10% Teflon® PTFE Micropowder in Acetal Resin

Description: Delrin® 510MP is a medium viscosity grade containing 10% Teflon® Micropowder.

Physical Properties	Metric	English	Comments
Density	1.48 g/cc	0.0535 lb/in³	ASTM D792
Linear Mold Shrinkage	0.017 - 0.020 cm/cm @Thickness 3.20 mm	0.017 - 0.020 in/in @Thickness 0.126 in	24 hr.; ASTM D955
Linear Mold Shrinkage, Transverse	0.017 - 0.020 cm/cm @Thickness 3.20 mm	0.017 - 0.020 in/in @Thickness 0.126 in	24 hr.; ASTM D792

Melt Flow	5.0 g/10 min	5.0 g/10 min	1.05 kg at 190°C; ASTM D1238
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Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	61.0 MPa	8850 psi	5 mm/min; ASTM D638
Elongation at Break	13 %	13 %	5 mm/min; ASTM D638
Elongation at Yield	10 %	10 %	5 mm/min; ASTM D638
Flexural Yield Strength	93.0 MPa	13500 psi	5% strain; ASTM D790
Flexural Modulus	3.16 GPa	458 ksi	ASTM D790
Izod Impact, Notched	0.270 J/cm	0.506 ft-lb/in	ASTM D256
Izod Impact, Unnotched	9.50 J/cm	17.8 ft-lb/in	ASTM D4812

Electrical Properties	Metric	English	Comments
Electrical Resistivity	3.00e+14 ohm-cm	3.00e+14 ohm-cm	ASTM D257
Surface Resistance	6.00e+15 ohm	6.00e+15 ohm	ASTM D257

Dielectric Constant	3.5	3.5	1 MHz; ASTM D150
Dielectric Strength	17.3 kV/mm @Thickness 3.20 mm	439 kV/in @Thickness 0.126 in	Short Time; ASTM D149
Dissipation Factor	0.0050	0.0050	1 MHz; ASTM D150

Thermal Properties	Metric	English	Comments
CTE, linear	102 $\mu\text{m}/\text{m}^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	56.7 $\mu\text{in}/\text{in}^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	ASTM E831
CTE, linear, Transverse to Flow	99.0 $\mu\text{m}/\text{m}^{\circ}\text{C}$ @Temperature 20.0 $^{\circ}\text{C}$	55.0 $\mu\text{in}/\text{in}^{\circ}\text{F}$ @Temperature 68.0 $^{\circ}\text{F}$	ASTM E831
Melting Point	178 $^{\circ}\text{C}$	352 $^{\circ}\text{F}$	ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	167 $^{\circ}\text{C}$	333 $^{\circ}\text{F}$	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	108 $^{\circ}\text{C}$	226 $^{\circ}\text{F}$	ASTM D648

Processing Properties	Metric	English	Comments
Melt Temperature	210 - 220 $^{\circ}\text{C}$	410 - 428 $^{\circ}\text{F}$	
Mold Temperature	80.0 - 100 $^{\circ}\text{C}$	176 - 212 $^{\circ}\text{F}$	