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DUPONT Delrin® 511P

Delrin® 511P is a medium viscosity acetal homopolymer with improved thermal stability and modifications for more precise molding(reduced warpage, less shrinkage, fewer voids).
Information provided by DuPont; The Delrin product line was sold by DuPont in 2023 but this specific grade was discontinued prior to the sale

Physical Properties	Metric	English	Comments
Specific Gravity	1.42 g/cc	1.42 g/cc	ASTM D792
Density	1.42 g/cc	0.0513 lb/in³	ISO 1183
Water Absorption	0.30 % @Temperature 23.0 °C	0.30 % @Temperature 73.4 °F	Immersion 24h; ASTM D570
	0.90 % @Temperature 23.0 °C	0.90 % @Temperature 73.4 °F	Saturation, immersed; ISO 62, Similar to
Moisture Absorption at Equilibrium	0.20 % @Temperature 23.0 °C	0.20 % @Temperature 73.4 °F	50% RH; ISO 62, Similar to
Linear Mold Shrinkage	0.016 - 0.019 cm/cm @Thickness 3.20 mm	0.016 - 0.019 in/in @Thickness 0.126 in	Transverse, 24h; ASTM D955
Linear Mold Shrinkage, Flow	0.015 - 0.018 cm/cm @Thickness 3.20 mm	0.015 - 0.018 in/in @Thickness 0.126 in	Flow, 24h; ASTM D955
	0.018 cm/cm @Thickness 2.00 mm	0.018 in/in @Thickness 0.0787 in	ISO 294-4
	0.017 - 0.020 cm/cm @Thickness 4.00 mm	0.017 - 0.020 in/in @Thickness 0.157 in	Parallel, 24h; ISO 294-4
Linear Mold Shrinkage, Transverse	0.017 cm/cm @Thickness 2.00 mm	0.017 in/in @Thickness 0.0787 in	ISO 294-4
	0.017 - 0.020 cm/cm @Thickness 4.00 mm	0.017 - 0.020 in/in @Thickness 0.157 in	Normal, 24h; ISO 294-4
Melt Flow	7.0 g/10 min @Load 1.05 kg, Temperature 190 °C	7.0 g/10 min @Load 2.31 lb, Temperature 374 °F	ASTM D1238
	15 g/10 min @Load 2.16 kg, Temperature 190 °C	15 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133
Melt Index of Compound	13 g/10 min @Load 2.16 kg, Temperature 190 °C	13 g/10 min @Load 4.76 lb, Temperature 374 °F	cm3/10 min; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	92	92	ISO 2039/2
Hardness, Rockwell R	120	120	ISO 2039/2
Tensile Strength	72.0 MPa @Temperature 23.0 °C	10400 psi @Temperature 73.4 °F	5mm/min (0.2in/min); ASTM D638
Tensile Strength, Yield	72.0 MPa @Temperature 23.0 °C	10400 psi @Temperature 73.4 °F	5mm/min (0.2in/min); ASTM D638
	74.0 MPa @Temperature 23.0 °C	10700 psi @Temperature 73.4 °F	ISO 527
Tensile Stress at Strain	0.820 MPa @Strain 0.1 %, Temperature 120 °C	119 psi @Strain 0.1 %, Temperature 248 °F	ISO 11403-1/-2
	1.08 MPa @Strain 0.1 %, Temperature 100 °C	157 psi @Strain 0.1 %, Temperature 212 °F	ISO 11403-1/-2