

acetal resin

Delrin® 511P BK402

Delrin® 511P is a medium viscosity acetal homopolymer with improved thermal stability and modifications for more precise molding(reduced warpage, less shrinkage, fewer voids).

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		POM
Part Marking Code	ISO 11469		>POM<
Mechanical			
Yield Stress	ISO 527	MPa (kpsi)	73 (10.6)
Yield Strain	ISO 527	%	12
Strain at Break	ISO 527	%	
50mm/min			27
Nominal Strain at Break	ISO 527	%	20
Tensile Modulus	ISO 527	MPa (kpsi)	3400 (495)
Flexural Modulus	ISO 178	MPa (kpsi)	3100 (450)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-30°C (-22°F)			6
23°C (73°F)			7
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²	
-30°C (-22°F)			170
23°C (73°F)			170

Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc.
 ISO Mechanical properties measured at 4.0mm, ISO Electrical properties measured at 2.0mm, and all ASTM properties measured at 3.2mm.
 Test temperatures are 23°C unless otherwise stated.

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Property	Test Method	Units	Value
Thermal			
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	165 (329)
1.80MPa			105 (221)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	178 (352)
CLTE, Normal -40 - 23°C (-40 - 73°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.9 (0.5)
23 - 55°C (73 - 130°F)			1.0 (0.56)
55 - 100°C (130 - 212°F)			1.4 (0.78)
CLTE, Parallel -40 - 23°C (-40 - 73°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.9 (0.5)
23 - 55°C (73 - 130°F)			1.0 (0.56)
55 - 100°C (130 - 212°F)			1.3 (0.72)
Rheological			
Melt Mass-Flow Rate 190°C, 2.16kg	ISO 1133	g/10 min	14
Flammability			
Oxygen Index	ISO 4589-1/-2	%	21
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1420 (1.42)
Water Absorption Equilibrium 50%RH, 2.0mm	ISO 62, Similar to	%	0.2
Saturation, immersed, 2.0mm			1.0
Molding Shrinkage Normal, 2.0mm	ISO 294-4	%	1.7
Parallel, 2.0mm			1.7

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Property	Test Method	Units	Value
Processing			
Melt Temperature Range		°C (°F)	210-220 (410-430)
Melt Temperature Optimum		°C (°F)	215 (420)
Mold Temperature Range		°C (°F)	80-100 (175-212)
Mold Temperature Optimum		°C (°F)	90 (195)
Drying Time, Dehumidified Dryer		h	2-4
Drying Temperature		°C (°F)	80 (175)
Processing Moisture Content		%	<0.2
Hold Pressure Range		MPa (kpsi)	80-100 (12-15)

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