

DuPont™ Delrin®

acetal resin

Delrin® 100P NC010

Delrin® 100P is a high viscosity acetal homopolymer for use in easy to fill molds. It has improved processing thermal stability, good mechanical properties, toughness, and low volatile emissions.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		POM
Part Marking Code	ISO 11469		>POM<
Mechanical			
Yield Stress	ISO 527	MPa (kpsi)	70 (10.2)
Yield Strain	ISO 527	%	25
Strain at Break	ISO 527	%	
50mm/min			65
Nominal Strain at Break	ISO 527	%	45
Tensile Modulus	ISO 527	MPa (kpsi)	2900 (420)
Tensile Creep Modulus	ISO 899	MPa (kpsi)	
1h			2700 (392)
1000h			1500 (218)
Flexural Modulus	ISO 178	MPa (kpsi)	2600 (377)
Flexural Stress	ISO 178	MPa (kpsi)	
@ 3.5% Strain			74 (10.7)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-30°C (-22°F)			11
23°C (73°F)			14
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²	
-30°C (-22°F)			350
23°C (73°F)			N

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 75-1/-2	°C (°F)	160 (320)
1.80MPa			93 (200)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	178 (352)
CLTE, Parallel -40 - 23°C (-40 - 73°F)	ISO 11359-1/-2	E-4/C (E-4/F)	1.1 (0.61)
23 - 55°C (73 - 130°F)			1.1 (0.61)
55 - 100°C (130 - 212°F)			1.5 (0.84)
CLTE, Normal -40 - 23°C (-40 - 73°F)	ISO 11359-1/-2	E-4/C (E-4/F)	1.0 (0.56)
23 - 55°C (73 - 130°F)			1.1 (0.61)
55 - 100°C (130 - 212°F)			1.5 (0.82)
Specific Heat	ISO 11357-4	J/kg K (Btu/lb F)	3000 (0.71)
Vicat Softening Temperature 50N	ISO 306	°C (°F)	160 (320)
Rheological			
Melt Mass-Flow Rate 190°C, 2.16kg	ISO 1133	g/10 min	2.5
Melt Volume-Flow Rate	ISO 1133	cm ³ /10 min (ml/10 min)	1.9
Electrical			
Surface Resistivity	IEC 60093	ohm	>1E15
Volume Resistivity	IEC 60093	ohm m	1E12
Relative Permittivity 1E2 Hz	IEC 60250		3.8
1E6 Hz			3.7
Dissipation Factor 1E6 Hz	IEC 60250	E-4	40
CTI	IEC 60112	V	600

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Property	Test Method	Units	Value
Flammability			
Flammability Classification	IEC 60695-11-10		
0.75mm			HB
1.5mm			HB
3.0mm			HB
Oxygen Index	ISO 4589-1/-2	%	21
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.75mm			50
1.5mm			110
3.0mm			110
RTI, Impact	UL 746B	°C	
0.75mm			50
1.5mm			85
3.0mm			90
RTI, Strength	UL 746B	°C	
0.75mm			50
1.5mm			90
3.0mm			95
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1420 (1.42)
Hardness, Rockwell	ISO 2039/2		
Scale M			92
Scale R			120
Water Absorption	ISO 62, Similar to	%	
Equilibrium 50%RH			0.3
Saturation, immersed			1.4
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			2.0
Parallel, 2.0mm			2.2

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Property	Test Method	Units	Value
Processing - Injection Molding			
Melt Temperature Range		°C (°F)	210-220 (410-430)
Melt Temperature Optimum		°C (°F)	215 (420)
Mold Temperature Range		°C (°F)	80-100 (175-210)
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)	90-110 (13-16)

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