

DuPont™ Delrin®

acetal resin

Delrin® 100 NC010

Delrin® 100 is a high viscosity acetal homopolymer for use in easy to fill molds. Delrin® 100 provides maximum toughness in the product line without modification, and optimum mechanical performance.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		POM
Part Marking Code	ISO 11469		>POM<
Mechanical			
Yield Stress	ISO 527	MPa (kpsi)	71 (10.3)
Yield Strain	ISO 527	%	25
Strain at Break	ISO 527	%	70
Nominal Strain at Break	ISO 527	%	45
Tensile Modulus	ISO 527	MPa (kpsi)	3100 (450)
Tensile Creep Modulus	ISO 899	MPa (kpsi)	
1h			2900 (421)
1000h			1600 (232)
Flexural Modulus	ISO 178	MPa (kpsi)	2700 (390)
Flexural Stress	ISO 178	MPa (kpsi)	
@ 3.5% Strain			76 (11)
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)			NB
23°C (73°F)			NB

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			98 (210)
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)	1.0 (0.56)
23 - 55°C (73 - 130°F)			1.1 (0.61)
55 - 100°C (130 - 212°F)			1.5 (0.83)
CLTE, Parallel -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)			1.4 (0.78)
Vicat Softening Temperature 50N	ISO 306	°C (°F)	160 (320)
Rheological			
Melt Mass-Flow Rate 190°C, 2.16kg	ISO 1133	g/10 min	2.3
Electrical			
Surface Resistivity	IEC 60093	ohm	>1E15
Relative Permittivity 1E2 Hz	IEC 60250		3.8
1E6 Hz			3.7
Volume Resistivity	IEC 60093	ohm m	1E12
Dissipation Factor 1E2 Hz	IEC 60250	E-4	180
1E6 Hz			50
Electric Strength 1.0mm	IEC 60243-1	kV/mm	22 32 (812)
CTI	IEC 60112	V	600

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Property	Test Method	Units	Value
Flammability			
Flammability Classification	IEC 60695-11-10		
0.75mm			
1.5mm			
3.0mm			
6.0mm			
Oxygen Index	ISO 4589-1/-2	%	22
Temperature Index			
RTI, Electrical	UL 746B	°C	
0.75mm			
1.5mm			
3.0mm			
6.0mm			
RTI, Impact	UL 746B	°C	
0.75mm			
1.5mm			
3.0mm			
6.0mm			
RTI, Strength	UL 746B	°C	
0.75mm			
1.5mm			
3.0mm			
6.0mm			

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Property	Test Method	Units	Value
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			0.2
Saturation, immersed			0.9
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			1.9
Parallel, 2.0mm			2.1
Processing			
Melt Temperature Range		°C (°F)	210-220 (410-430)
Melt Temperature Optimum		°C (°F)	215 (420)
Mold Temperature Range		°C (°F)	80-100 (175-210)
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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