

DuPont™ Delrin®

acetal resin

PRELIMINARY DATA

Delrin® 100ST NC010

Delrin® 100ST NC010 is a super tough, high viscosity acetal homopolymer grade with superior impact resistance. It is designed for highly stressed parts where outstanding toughness is essential.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		POM-HI
Part Marking Code	ISO 11469		>POM-HI<
Mechanical			
Yield Stress	ISO 527	MPa (kpsi)	41 (5.9)
Yield Strain	ISO 527	%	30
Strain at Break	ISO 527	%	
50mm/min			>100
Nominal Strain at Break	ISO 527	%	>50
Tensile Modulus	ISO 527	MPa (kpsi)	1400 (203)
Tensile Creep Modulus	ISO 899	MPa (kpsi)	
1h			1350 (196)
1000h			550 (80)
Flexural Modulus	ISO 178	MPa (kpsi)	1100 (160)
Flexural Stress	ISO 178	MPa (kpsi)	
@ 3.5% Strain			34 (4.9)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-30°C (-22°F)			20
23°C (73°F)			90
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.

The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

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Property	Test Method	Units	Value
Thermal			
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	100 (212)
1.80MPa			60 (140)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	178 (352)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			1.2 (0.67)
23 - 55°C (73 - 130°F)			1.4 (0.78)
55 - 100°C (130 - 212°F)			1.59 (0.88)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			1.2 (0.67)
23 - 55°C (73 - 130°F)			1.3 (0.72)
55 - 100°C (130 - 212°F)			1.29 (0.72)
Vicat Softening Temperature 50N	ISO 306	°C (°F)	116 (241)
Rheological			
Melt Mass-Flow Rate 190°C, 2.16kg	ISO 1133	g/10 min	2.0
Electrical			
Surface Resistivity	IEC 60093	ohm	1E14
Relative Permittivity	IEC 60250		
1E2 Hz			4.4
1E6 Hz			3.8
Volume Resistivity	IEC 60093	ohm m	1E12
Dissipation Factor	IEC 60250	E-4	
1E2 Hz			65
Electric Strength	IEC 60243-1	kV/mm	23
1.0mm			39 (990)
CTI	IEC 60112	V	600

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Property	Test Method	Units	Value
Flammability			
Flammability Classification	IEC 60695-11-10		
1.5mm			HB
3.0mm			HB
Oxygen Index	ISO 4589-1/-2	%	21
Temperature Index			
RTI, Electrical	UL 746B	°C	
1.5mm			105
3.0mm			105
RTI, Impact	UL 746B	°C	
1.5mm			85
3.0mm			85
RTI, Strength	UL 746B	°C	
1.5mm			85
3.0mm			85
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1340 (1.34)
Hardness, Rockwell	ISO 2039/2		
Scale M			58
Scale R			105
Water Absorption	ISO 62, Similar to	%	
Equilibrium 50%RH			0.35
Saturation, immersed			0.9
Molding Shrinkage	ISO 294-4	%	
Normal, 2.0mm			1.4
Parallel, 2.0mm			1.3

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Property	Test Method	Units	Value
Processing			
Melt Temperature Range		°C (°F)	200-210 (390-410)
Melt Temperature Optimum		°C (°F)	205 (400)
Mold Temperature Range		°C (°F)	40-60 (100-140)
Mold Temperature Optimum		°C (°F)	50 (122)
Drying Time, Dehumidified Dryer		h	2-4
Drying Temperature		°C (°F)	80 (175)
Processing Moisture Content		%	<0.05
Hold Pressure Range		MPa (kpsi)	60-80 (9-12)

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