

# DuPont™ Delrin®

acetal resin

## Delrin® 500T NC010

Delrin® 500T NC010 is a toughened, medium viscosity acetal homopolymer resin with impact resistance similar to Delrin® 100. It can be used in parts requiring noise reduction.

Property	Test Method	Units	Value
<b>Identification</b>			
Resin Identification	ISO 1043		POM-I
Part Marking Code	ISO 11469		>POM-I<
<b>Mechanical</b>			
Yield Stress	ISO 527	MPa (kpsi)	54 (7.8)
Yield Strain	ISO 527	%	20
Strain at Break	ISO 527	%	
50mm/min			>50
Nominal Strain at Break	ISO 527	%	35
Tensile Modulus	ISO 527	MPa (kpsi)	2300 (334)
Tensile Creep Modulus	ISO 899	MPa (kpsi)	
1h			2300 (334)
1000h			1150 (167)
Flexural Modulus	ISO 178	MPa (kpsi)	2100 (305)
Flexural Stress	ISO 178	MPa (kpsi)	
@ 3.5% Strain			60 (8.7)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m <sup>2</sup>	
-30°C (-22°F)			9
23°C (73°F)			14
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m <sup>2</sup>	
-30°C (-22°F)			330
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
<b>Thermal</b>			
Deflection Temperature 0.45MPa	ISO 75f	°C (°F)	146 (295)
1.80MPa			78 (172)
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)			1.1 (0.61)
23 - 55°C (73 - 130°F)			1.2 (0.66)
55 - 100°C (130 - 212°F)			1.6 (0.89)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			1.1 (0.61)
23 - 55°C (73 - 130°F)			1.3 (0.72)
55 - 100°C (130 - 212°F)			1.31 (0.73)
Vicat Softening Temperature 50N	ISO 306	°C (°F)	139 (282)
<b>Rheological</b>			
Melt Mass-Flow Rate 190°C, 2.16kg	ISO 1133	g/10 min	12
<b>Electrical</b>			
Surface Resistivity	IEC 60093	ohm	1E15
Relative Permittivity	IEC 60250		
1E2 Hz			3.6
1E6 Hz			3.6
Volume Resistivity	IEC 60093	ohm m	>1E13
Dissipation Factor	IEC 60250	E-4	
1E6 Hz			160
CTI	IEC 60112	V	600

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Property	Test Method	Units	Value
<b>Flammability</b>			
Flammability Classification 0.75mm	IEC 60695-11-10		HB
Flammability Classification 0.75mm	UL94		HB
Oxygen Index	ISO 4589-1/-2	%	23
High Amperage Arc Ignition Resistance 0.75mm	UL 746A	arcs	200
Hot Wire Ignition 0.75mm	UL 746A	s	8
1.5mm			11
3.0mm			15
<b>Temperature Index</b>			
RTI, Electrical 0.75mm	UL 746B	°C	105
RTI, Impact 0.75mm	UL 746B	°C	85
RTI, Strength 0.75mm	UL 746B	°C	85
<b>Other</b>			
Density	ISO 1183	kg/m <sup>3</sup> (g/cm <sup>3</sup> )	1380 (1.38)
Hardness, Rockwell Scale M	ISO 2039/2		79
Scale R			117
Water Absorption Equilibrium 50%RH	ISO 62, Similar to	%	0.21
Saturation, immersed			0.82
Molding Shrinkage Normal, 2.0mm	ISO 294-4	%	1.6
Parallel, 2.0mm			1.7

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Property	Test Method	Units	Value
<b>Processing</b>			
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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