

**DuPont™ Delrin®**  
**acetal resin**

**Delrin® 111P NC010**

Delrin® 111P is a high viscosity acetal homopolymer with improved thermal stability and modifications for more precise moulding (reduced warpage, fewer voids). It has higher tensile strength and modulus than Delrin® 100P.

Property	Test Method	Units	Value
<b>Identification</b>			
Resin Identification	ISO 1043		POM
Part Marking Code	ISO 11469		>POM<
<b>Mechanical</b>			
Yield Stress	ISO 527	MPa (kpsi)	72 (10.4)
Yield Strain	ISO 527	%	20
Strain at Break	ISO 527	%	50
Nominal Strain at Break	ISO 527	%	35
Tensile Modulus	ISO 527	MPa (kpsi)	3200 (464)
Tensile Creep Modulus	ISO 899	MPa (kpsi)	
1h			3000 (435)
1000h			1700 (247)
Flexural Modulus	ISO 178	MPa (kpsi)	2900 (420)
Flexural Stress	ISO 178	MPa (kpsi)	
@ 3.5% Strain			80 (11.6)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m <sup>2</sup>	
-30°C (-22°F)			9
23°C (73°F)			11
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m <sup>2</sup>	
-30°C (-22°F)			270
23°C (73°F)			300
<b>Thermal</b>			
Deflection Temperature	ISO 75-1/-2	°C (°F)	
0.45MPa			165 (329)
1.80MPa			100 (212)

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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## Delrin® 111P NC010

Property	Test Method	Units	Value
<b>Thermal</b>			
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	178 (352)
CLTE, Parallel -40 - 23°C (-40 - 73°F) 23 - 55°C (73 - 130°F) 55 - 100°C (130 - 212°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.94 (0.52) 1.0 (0.72) 1.3 (0.72)
CLTE, Normal -40 - 23°C (-40 - 73°F) 23 - 55°C (73 - 130°F) 55 - 100°C (130 - 212°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.94 (0.52) 1.1 (0.61) 1.4 (0.78)
Vicat Softening Temperature 50N	ISO 306	°C (°F)	160 (320)
<b>Rheological</b>			
Melt Mass-Flow Rate 190°C, 2.16kg	ISO 1133	g/10 min	2.4
<b>Electrical</b>			
CTI	IEC 60112	V	600
<b>Flammability</b>			
Flammability Classification 1.5mm 3.0mm	IEC 60695-11-10		HB HB
Flammability Classification 1.5mm	UL94		HB
Oxygen Index	ISO 4589-1/-2	%	17

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Property	Test Method	Units	Value
<b>Temperature Index</b>			
RTI, Electrical	UL 746B	°C	110
1.5mm			
3.0mm			
RTI, Impact	UL 746B	°C	85
1.5mm			
3.0mm			
RTI, Strength	UL 746B	°C	90
1.5mm			
3.0mm			
<b>Other</b>			
Density	ISO 1183	kg/m <sup>3</sup> (g/cm <sup>3</sup> )	1420 (1.42)
Hardness, Rockwell	ISO 2039/2		
Scale M			92
Scale R			120
Water Absorption	ISO 62, Similar to	%	1.0
Saturation, immersed			
Molding Shrinkage	ISO 294-4	%	1.9
Normal, 2.0mm			
Parallel, 2.0mm			
<b>Processing</b>			
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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