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
Identification			
Resin Identification	ISO 1043		POM
Part Marking Code	ISO 11469		>POM<
Mechanical			
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^2	
-30°C (-22°F)			9
23°C (73°F)			11
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m^2	
-30°C (-22°F)			270
23°C (73°F)			300
Thermal			
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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Property	Test Method	Units	Value
Thermal			
Melting Temperature	ISO 11357-1/-3	°C (°F)	
10°C/min			178 (352)
CLTE, Parallel	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.94 (0.52)
23 - 55°C (73 - 130°F)			1.0 (0.72)
55 - 100°C (130 - 212°F)			1.3 (0.72)
CLTE, Normal	ISO 11359-1/-2	E-4/C (E-4/F)	
-40 - 23°C (-40 - 73°F)			0.94 (0.52)
23 - 55°C (73 - 130°F)			1.1 (0.61)
55 - 100°C (130 - 212°F)			1.4 (0.78)
Vicat Softening Temperature	ISO 306	°C (°F)	
50N			160 (320)
Rheological			
Melt Mass-Flow Rate	ISO 1133	g/10 min	
190°C, 2.16kg			2.4
Electrical			
CTI	IEC 60112	V	600
Flammability			
Flammability Classification	IEC 60695-11-10		
1.5mm			HB
3.0mm			HB
Flammability Classification	UL94		
1.5mm			HB
Oxygen Index	ISO 4589-1/-2	%	17

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Property	Test Method	Units	Value
Temperature Index			
RTI, Electrical	UL 746B	°C	
1.5mm			110
3.0mm			110
RTI, Impact	UL 746B	°C	
1.5mm			85
3.0mm			90
RTI, Strength	UL 746B	°C	
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	%	
Saturation, immersed			1.0
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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