

DuPont™ Delrin®

acetal resin

PRELIMINARY DATA

Delrin® 510GR NC000

Delrin® 510GR is a 10% glass reinforced acetal homopolymer for injection molding. It has high strength, stiffness, and high deflection temperature and excellent creep resistance.

Property	Test Method	Units	Value
Identification			
Resin Identification	ISO 1043		POM-GF10
Part Marking Code	ISO 11469		>POM-GF10<
Mechanical			
Stress at Break	ISO 527	MPa (kpsi)	95 (14)
Strain at Break	ISO 527	%	4.3
Tensile Modulus	ISO 527	MPa (kpsi)	5500 (800)
Flexural Modulus	ISO 178	MPa (kpsi)	4800 (700)
Notched Charpy Impact Strength	ISO 179/1eA	kJ/m ²	
-30°C (-22°F)			5
23°C (73°F)			5
Unnotched Charpy Impact Strength	ISO 179/1eU	kJ/m ²	
-30°C (-22°F)			50
23°C (73°F)			50

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 75-1/-2	°C (°F)	174 (345)
1.80MPa			164 (327)
Melting Temperature 10°C/min	ISO 11357-1/-3	°C (°F)	178 (352)
CLTE, Parallel 23 - 55°C (73 - 130°F)	ISO 11359-1/-2	E-4/C (E-4/F)	0.7 (0.39)
CLTE, Normal 23 - 55°C (73 - 130°F)	ISO 11359-1/-2	E-4/C (E-4/F)	1.0 (0.56)
Electrical			
Volume Resistivity	IEC 60093	ohm m	1E11
Electric Strength	IEC 60243-1	kV/mm	28
Relative Permittivity 1E2 Hz	IEC 60250		3.7
1E6 Hz			3.9
Dissipation Factor 1E6 Hz	IEC 60250	E-4	70
CTI	IEC 60112	V	600
Flammability			
Flammability Classification 0.75mm	IEC 60695-11-10		HB
Flammability Classification 0.75mm	UL94		HB
Oxygen Index	ISO 4589-1/-2	%	21

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Property	Test Method	Units	Value
Temperature Index			
RTI, Electrical 0.75mm	UL 746B	°C	50
RTI, Impact 0.75mm	UL 746B	°C	50
RTI, Strength 0.75mm	UL 746B	°C	50
Other			
Density	ISO 1183	kg/m ³ (g/cm ³)	1490 (1.49)
Water Absorption Equilibrium 50%RH	ISO 62, Similar to	%	0.16
Saturation, immersed			1.1
Molding Shrinkage Normal, 2.0mm	ISO 294-4	%	1.4
Parallel, 2.0mm			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		%	<0.1
Hold Pressure Range		MPa (kpsi)	80-100 (12-15)

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