

DELTRIN 511DP NC010

Delrin USA, LLC - Acetal (POM) Homopolymer

General Information

General	
Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • North America • Asia Pacific • Latin America
Additive	• Mold Release
Features	• Creep Resistant • Good Mold Release • Low Warpage • Crystalline • Good Thermal Stability • Medium Viscosity • Fast Molding Cycle • High Dimensional Stability • Fatigue Resistant • Homopolymer
RoHS Compliance	• Contact Manufacturer
Part Marking Code (ISO 11469)	• >POM<
Resin ID (ISO 1043)	• POM

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.42	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	14	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	13	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.8	%	
Flow	1.9	%	
Water Absorption (24 hr, 73°F)	0.30	%	ISO 62
Water Absorption (Saturation, 73°F, 0.0787 in)	0.90	%	ISO 62
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.30	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	508000	psi	ISO 527-1
Tensile Stress (Yield)	10900	psi	ISO 527-2
Tensile Strain (Yield)	12	%	ISO 527-2
Nominal Tensile Strain at Break	25	%	ISO 527-2
Flexural Modulus	464000	psi	ISO 178
Flexural Stress (3.5% Strain)	12900	psi	ISO 178
Poisson's Ratio	0.37		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	2.9	ft·lb/in ²	
73°F	3.1	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	95	ft·lb/in ²	
73°F	100	ft·lb/in ²	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness ² (H 961/30)	25400	psi	ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	325	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	221	°F	ISO 75-2/A
Vicat Softening Temperature	320	°F	ISO 306/B50
Melting Temperature ³	352	°F	ISO 11357-3
CLTE - Flow	5.6E-5	in/in/°F	ISO 11359-2



CLTE - Transverse	6.1E-5 in/in/°F	ISO 11359-2
RTI Elec		UL 746B
0.030 in	122 °F	
0.06 in	230 °F	
0.12 in	230 °F	
RTI Imp		UL 746B
0.030 in	122 °F	
0.06 in	185 °F	
0.12 in	194 °F	
RTI Str		UL 746B
0.030 in	122 °F	
0.06 in	194 °F	
0.12 in	203 °F	
Annealing Temperature	320 °F	
Annealing Time - Optional	30.0 min/mm	

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 62631-3-2
Volume Resistivity	> 1.0E+13	ohms·m	IEC 62631-3-1
Relative Permittivity			IEC 62631-2-1
100 Hz	3.90		
1 MHz	3.90		
Dissipation Factor			IEC 62631-2-1
100 Hz	3.0E-3		
1 MHz	4.5E-3		
Comparative Tracking Index (CTI) (0.118 in)	PLC 0		UL 746A
Comparative Tracking Index	600 V		IEC 60112
Flammability	Nominal Value	Unit	Test Method
Burning Rate ⁴ (0.0394 in)	1.1	in/min	ISO 3795
Flame Rating			UL 94
0.031 in	HB		
0.06 in	HB		
Flammability Classification			IEC 60695-11-10, -20
0.03 in	HB		
0.06 in	HB		
FMVSS Flammability	B		FMVSS 302
Additional Information	Nominal Value	Unit	Test Method
Emission	< 8	ppm	VDA 275
Fogging			ISO 6452
F-value (refraction)	97	%	
G-value (condensate)	0.10	mg	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	176	°F
Drying Time - Desiccant Dryer	2.0 to 4.0	hr
Suggested Max Moisture	< 0.20	%
Processing (Melt) Temp	410 to 428	°F
Melt Temperature, Optimum	419	°F
Mold Temperature	176 to 212	°F
Mold Temperature, Optimum	194	°F
Holding Pressure	11600 to 14500	psi
Drying Recommended	yes	
Hold Pressure Time	7.50	s/mm
Maximum Screw Tangential Speed	709	in/min
Extrusion	Nominal Value	Unit
Drying Temperature	167 to 185	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	< 0.20	%
Melt Temperature	383 to 401	°F
Melt Temperature, Optimum	392	°F