

DELTRIN 511CPE NC010

Delrin USA, LLC - Acetal (POM) Homopolymer

General Information
General

Material Status	• Commercial: Active
Availability	<ul style="list-style-type: none"> • Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	<ul style="list-style-type: none"> • Creep Resistant • Crystalline • Fast Molding Cycle • Fatigue Resistant • Good Thermal Stability • High Dimensional Stability • Homopolymer • Low VOC • Low Warpage • Medium Viscosity
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	1.8	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	508000	psi	ISO 527-1
Tensile Stress (Yield)	10900	psi	ISO 527-2
Tensile Strain (Yield)	13	%	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
-40°F	3.3	ft·lb/in ²	
-22°F	3.3	ft·lb/in ²	
73°F	3.3	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-40°F	90	ft·lb/in ²	
-22°F	95	ft·lb/in ²	
73°F	110	ft·lb/in ²	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	95		
R-Scale	122		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	329	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	221	°F	ISO 75-2/A
Melting Temperature ²	352	°F	ISO 11357-3
CLTE - Flow	5.3E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	5.3E-5	in/in/°F	ISO 11359-2
Thermal Conductivity	3.0	Btu·in/hr/ft ² /°F	ISO 22007-2



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	4.0E-3		
1 MHz	4.5E-3		
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Burning Rate ³ (0.0394 in)	1.7	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
Fill Analysis	Nominal Value	Unit	Test Method
Melt Density	1.16	g/cm ³	
Additional Information	Nominal Value	Unit	Test Method
Emission	< 2	ppm	VDA 275

Processing Information

Injection	Nominal Value	Unit
Drying Time - Desiccant Dryer	2.0 to 4.0	hr
Processing (Melt) Temp	392 to 410	°F
Melt Temperature, Optimum	401	°F
Mold Temperature	176 to 212	°F
Mold Temperature, Optimum	194	°F
Holding Pressure	11600 to 14500	psi
Drying Recommended	yes	
Hold Pressure Time	8.00	s/mm
Maximum Screw Tangential Speed	709	in/min

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min

³ FMVSS 302

