

**DELTRIN 511DP BK402**

Delrin USA, LLC - Acetal (POM) Homopolymer

**General Information**
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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 <sup>1</sup>**

Physical	Nominal Value	Unit	Test Method
Density	1.42	g/cm <sup>3</sup>	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 <sup>3</sup> /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.8	%	
Flow	1.9	%	
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)	10700	psi	ISO 527-2
Tensile Strain (Yield)	12	%	ISO 527-2
Nominal Tensile Strain at Break	20	%	ISO 527-2
Flexural Modulus	464000	psi	ISO 178
Flexural Stress (3.5% Strain)	12300	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 <sup>2</sup>	
73°F	3.1	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	76	ft·lb/in <sup>2</sup>	
73°F	90	ft·lb/in <sup>2</sup>	
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
Melting Temperature <sup>2</sup>	352	°F	ISO 11357-3
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	
<b>Flammability</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Burning Rate <sup>3</sup> (0.0394 in)	< 3.1 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
<b>Additional Information</b>	<b>Nominal Value Unit</b>	<b>Test Method</b>
Emission	< 8 ppm	VDA 275
Fogging		ISO 6452
F-value (refraction)	97 %	
G-value (condensate)	0.10 mg	

### Processing Information

<b>Injection</b>	<b>Nominal Value Unit</b>
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
<b>Extrusion</b>	<b>Nominal Value Unit</b>
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
Extrusion Melt Temperature, Optimum	392 °F

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min

<sup>3</sup> FMVSS 302

