

**DELTRIN 500CL NC010**

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	• Lubricant	• Mold Release	
Features	• Good Mold Release	• Low Friction	• Medium Viscosity
	• Homopolymer	• Lubricated	• Wear Resistant
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• FORD WSK-M4D637-A5	• GM GMP.POM.013	• STELLANTIS MS-DB-100 CPN2203
Part Marking Code (ISO 11469)	• >POM<		
Resin ID (ISO 1043)	• POM		

**Properties <sup>1</sup>**

Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	15	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	12	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)	1.0	%	ISO 62
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.25	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	450000	psi	ISO 527-1
Tensile Stress (Yield)	10200	psi	ISO 527-2
Tensile Strain (Yield)	15	%	ISO 527-2
Nominal Tensile Strain at Break	25	%	ISO 527-2
Tensile Creep Modulus (1000 hr)	232000	psi	ISO 899-1
Flexural Modulus	421000	psi	ISO 178
Poisson's Ratio	0.37		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	3.3	ft·lb/in <sup>2</sup>	
73°F	3.8	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	140	ft·lb/in <sup>2</sup>	
73°F	170	ft·lb/in <sup>2</sup>	
Notched Izod Impact Strength			ISO 180/1A
-40°F	4.3	ft·lb/in <sup>2</sup>	
73°F	4.3	ft·lb/in <sup>2</sup>	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	92		
R-Scale	120		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	316	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	194	°F	ISO 75-2/A



Vicat Softening Temperature	320 °F	ISO 306/B50
Melting Temperature <sup>2</sup>	352 °F	ISO 11357-3
CLTE - Flow	6.1E-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	212 °F	
0.12 in	212 °F	
RTI Imp		UL 746B
0.030 in	122 °F	
0.06 in	176 °F	
0.12 in	176 °F	
RTI Str		UL 746B
0.030 in	122 °F	
0.06 in	185 °F	
0.12 in	185 °F	
Annealing Temperature	320 °F	
Annealing Time - Optional	30.0 min/mm	

<b>Electrical</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Surface Resistivity	> 1.0E+15	ohms	IEC 62631-3-2
Relative Permittivity			IEC 62631-2-1
100 Hz	4.20		
1 MHz	4.10		
Dissipation Factor (1 MHz)	6.0E-3		IEC 62631-2-1
Comparative Tracking Index	600	V	IEC 60112
<b>Flammability</b>	<b>Nominal Value</b>	<b>Unit</b>	<b>Test Method</b>
Burning Rate <sup>3</sup> (0.0394 in)	0.94	in/min	ISO 3795
Flame Rating			UL 94
0.030 in	HB		
0.06 in	HB		
Flammability Classification			IEC 60695-11-10, -20
0.030 in	HB		
0.06 in	HB		
FMVSS Flammability	B		FMVSS 302

### Processing Information

<b>Injection</b>	<b>Nominal Value</b>	<b>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	8.00	s/mm
Maximum Screw Tangential Speed	709	in/min

### 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

