DELRIN 500TL NC010

Delrin USA, LLC - *Acetal (POM) Homopolymer*

General Information

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Mold Release	• PTFE Lubricant: 2%	
Features	• Good Mold Release • Homopolymer	• Low Friction • Lubricated	• Medium Viscosity • Wear Resistant
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• ASTM D6778 POM0110 • GM GMP.POM.032	• GM GMW15702-130006 • STELLANTIS MS-DB-100 CPN3654	
Part Marking Code (ISO 11469)	• >POM-SD<		
Resin ID (ISO 1043)	• POM-SD		

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.43	g/cm³	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)	12	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.7	%	
Flow	1.8	%	
Water Absorption (Saturation, 73°F, 0.0787 in)	0.90	%	ISO 62
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.17	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	479000	psi	ISO 527-1
Tensile Stress (Yield)	10300	psi	ISO 527-2
Tensile Strain (Yield)	13	%	ISO 527-2
Nominal Tensile Strain at Break	20	%	ISO 527-2
Flexural Modulus	450000	psi	ISO 178
Poisson's Ratio	0.37		
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	1.9	ft·lb/in²	
73°F	2.4	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	76	ft·lb/in²	
73°F	81	ft·lb/in²	
Notched Izod Impact Strength			ISO 180/1A
-40°F	2.9	ft·lb/in²	
73°F	2.9	ft·lb/in²	
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)	217	°F	ISO 75-2/A
Melting Temperature [2]	352	°F	ISO 11357-3
CLTE - Flow	5.6E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	5.6E-5	in/in/°F	ISO 11359-2
Thermal Conductivity	2.9	Btu·in/hr/ft²/°F	ISO 22007-2

RTI Elec			UL 746B
0.06 in	221	°F	
0.12 in	221	°F	
RTI Imp			UL 746B
0.06 in	185	°F	
0.12 in	185	°F	
RTI Str			UL 746B
0.06 in	194	°F	
0.12 in	194	°F	
Annealing Temperature	320	°F	
Annealing Time - Optional	30.0	min/mm	
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	1.0E+12	ohms·m	IEC 62631-3-1
Relative Permittivity			IEC 62631-2-1
100 Hz	3.60		
1 MHz	3.60		
Comparative Tracking Index	600	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Burning Rate [3] (0.0394 in)	2.5	in/min	ISO 3795
Flame Rating			UL 94
0.06 in	HB		
0.12 in	HB		
Flammability Classification			IEC 60695-11-10, -20
0.06 in	HB		
0.12 in	HB		
FMVSS Flammability	B		FMVSS 302

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	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