

DELTRIN 500AL 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	• Lubricant • Mold Release		
Features	• Good Mold Release • Homopolymer	• Lubricated • Medium Viscosity	• Wear Resistant
Uses	• Automotive Applications		
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• ASTM D6778 POM0110 • GM GMP.POM.013	• GM GMW19P-POM-H3S • IMDS ID 15046616	• IMDS ID 15046616 Color: Natural
Part Marking Code (ISO 11469)	• >POM-S<		
Resin ID (ISO 1043)	• POM-S		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.39	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)	12	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.7	%	
Flow	1.8	%	
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.30	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	450000	psi	ISO 527-1
Tensile Stress (Yield)	9570	psi	ISO 527-2
Tensile Strain (Yield)	11	%	ISO 527-2
Nominal Tensile Strain at Break	23	%	ISO 527-2
Tensile Creep Modulus (1 hr)	348000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	232000	psi	ISO 899-1
Flexural Modulus	406000	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	3.3	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	62	ft·lb/in ²	
73°F	95	ft·lb/in ²	
Notched Izod Impact Strength			ISO 180/1A
-40°F	2.4	ft·lb/in ²	
73°F	2.9	ft·lb/in ²	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	89		
R-Scale	120		
Ball Indentation Hardness			ISO 2039-1
H 358/30	27800	psi	



H 961/30

24700 psi

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	327	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	207	°F	ISO 75-2/A
Melting Temperature ²	352	°F	ISO 11357-3
CLTE - Flow	6.7E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	6.7E-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	
Flammability	Nominal Value	Unit	Test Method
Burning Rate ³ (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
Fill Analysis	Nominal Value	Unit	Test Method
Melt Density	1.18	g/cm ³	
Additional Information	Nominal Value	Unit	Test Method
Emission	< 8	ppm	VDA 275

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

