

DELTRIN 111DP NC010

Delrin USA, LLC - Acetal (POM) Homopolymer

General Information

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • North America • Asia Pacific • Latin America
Additive	• Mold Release
Features	• Creep Resistant • Good Mold Release • Homopolymer • Crystalline • Good Thermal Stability • Low Warpage • Fast Molding Cycle • Good Thermal Stability • Fatigue Resistant • High Viscosity
RoHS Compliance	• Contact Manufacturer
Automotive Specifications	• GM GMP.POM.003 Color: • GM GMW19P-POM-H1 Black • GM GMW19P-POM-H1R • GM GMP.POM.003 Color: Natural
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)	2.4	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	2.1	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.9	%	
Flow	2.1	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	464000	psi	ISO 527-1
Tensile Stress (Yield)	10600	psi	ISO 527-2
Tensile Strain (Yield)	24	%	ISO 527-2
Nominal Tensile Strain at Break	35	%	ISO 527-2
Tensile Creep Modulus (1 hr)	334000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	160000	psi	ISO 899-1
Flexural Modulus	435000	psi	ISO 178
Poisson's Ratio	0.37		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-40°F	4.8	ft·lb/in ²	
-22°F	4.5	ft·lb/in ²	
73°F	5.2	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	160	ft·lb/in ²	
73°F	No Break		
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	94		
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)	208 °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
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	1.16	g/cm ³	
Specific Heat Capacity of Melt	0.717	Btu/lb/°F	

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	13100 to 16000	psi
Drying Recommended	yes	
Hold Pressure Time	7.50	s/mm
Maximum Screw Tangential Speed	472	in/min

Extrusion	Nominal Value	Unit
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

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

² 10°C/min

³ FMVSS 302

