

DELTRIN 100P 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		
Features	• Good Mold Release • Good Strength	• Good Thermal Stability • Good Toughness	• High Viscosity • Homopolymer
Uses	• Mold Making		
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• ASTM D6778 POM0111 • FORD WSK-M4D637-A1 • GM GMP.POM.003	• GM GMW19P-POM-H1 • GM GMW19P-POM-H1R • GM QK 005311	• IMDS ID 14075949 • STELLANTIS MS-DB-100 CPN1565
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)	2.5	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	2.2	%	
Water Absorption (24 hr, 73°F)	0.40	%	ISO 62
Water Absorption (Saturation, 73°F, 0.0787 in)	1.4	%	ISO 62
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.30	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	421000	psi	ISO 527-1
Tensile Stress (Yield)	10200	psi	ISO 527-2
Tensile Strain (Yield)	26	%	ISO 527-2
Nominal Tensile Strain at Break	45	%	ISO 527-2
Tensile Creep Modulus (1 hr)	392000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	218000	psi	ISO 899-1
Flexural Modulus	406000	psi	ISO 178
Flexural Stress (3.5% Strain)	10900	psi	ISO 178
Poisson's Ratio	0.37		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	6.2	ft·lb/in ²	
73°F	6.7	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	190	ft·lb/in ²	
73°F	No Break		
Notched Izod Impact Strength			ISO 180/1A
-40°F	5.7	ft·lb/in ²	
73°F	6.7	ft·lb/in ²	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2



M-Scale	88		
R-Scale	119		
Ball Indentation Hardness (H 358/30)	25100 psi		ISO 2039-1
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	311	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	203	°F	ISO 75-2/A
Deflection Temperature Under Load (264 psi, Annealed)	230	°F	ISO 75-2/A
Vicat Softening Temperature			
--	320	°F	ISO 306/B50
--	347	°F	ISO 306/A50
Melting Temperature ²	352	°F	ISO 11357-3
CLTE - Flow			ISO 11359-2
--	6.1E-5	in/in/°F	
-40 to 73°F	5.6E-5	in/in/°F	
CLTE - Transverse			ISO 11359-2
--	6.1E-5	in/in/°F	
-40 to 73°F	5.6E-5	in/in/°F	
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	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	2.0E+13	ohms	IEC 62631-3-2
Volume Resistivity	1.0E+12	ohms·m	IEC 62631-3-1
Electric Strength	1000	V/mil	IEC 60243-1
Relative Permittivity			IEC 62631-2-1
100 Hz	3.90		
1 MHz	3.90		
Dissipation Factor			IEC 62631-2-1
100 Hz	3.5E-3		
1 MHz	5.5E-3		
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Burning Rate ³ (0.0394 in)	1.6	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		
Glow Wire Flammability Index			IEC 60695-2-12
0.04 in	1020	°F	
0.08 in	1020	°F	
0.12 in	1020	°F	
FMVSS Flammability	B		FMVSS 302
Fill Analysis	Nominal Value	Unit	Test Method
Capacity of Melt	1.19	g/cm ³	
Conductivity of Melt	0.717	Btu/lb/°F	
Formation	1.5	Btu·in/hr/ft ² /°F	ISO 22007
	< 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	8.00	s/mm
Maximum Screw Tangential Speed	472	in/min
Extrusion	Nominal Value	Unit
Drying Temperature	176	°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

