

DELTRIN 100CPE NC010

Delrin USA, LLC - Acetal (POM) Homopolymer

General Information

General			
Material Status	<ul style="list-style-type: none"> Commercial: Active 		
Availability	<ul style="list-style-type: none"> Africa & Middle East Asia Pacific 	<ul style="list-style-type: none"> Europe Latin America 	<ul style="list-style-type: none"> North America
Features	<ul style="list-style-type: none"> Good Moldability Good Processability Good Strength 	<ul style="list-style-type: none"> Good Thermal Stability Good Toughness High Viscosity 	<ul style="list-style-type: none"> Homopolymer Low VOC
Uses	<ul style="list-style-type: none"> Mold Making 		
RoHS Compliance	<ul style="list-style-type: none"> Contact Manufacturer 		
Processing Method	<ul style="list-style-type: none"> Injection Molding 		
Part Marking Code (ISO 11469)	<ul style="list-style-type: none"> >POM< 		
Resin ID (ISO 1043)	<ul style="list-style-type: none"> 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)	2.3	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	1.9	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.9	%	
Flow	2.2	%	
Water Absorption (Saturation, 73°F, 0.0787 in)	1.0	%	ISO 62
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.10	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	421000	psi	ISO 527-1
Tensile Stress (Yield)	10300	psi	ISO 527-2
Tensile Strain (Yield)	28	%	ISO 527-2
Nominal Tensile Strain at Break	45	%	ISO 527-2
Flexural Modulus	406000	psi	ISO 178
Flexural Stress (3.5% Strain)	11000	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	7.1	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	210	ft·lb/in ²	
73°F	No Break		
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	90		
R-Scale	120		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	320	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	203	°F	ISO 75-2/A
Melting Temperature ²	352	°F	ISO 11357-3
CLTE - Flow			ISO 11359-2



--	6.1E-5 in/in/°F	
-40 to 73°F	5.3E-5 in/in/°F	
CLTE - Transverse		ISO 11359-2
--	5.6E-5 in/in/°F	
-40 to 73°F	5.6E-5 in/in/°F	
Thermal Conductivity	2.7 Btu·in/hr/ft ² /°F	ISO 22007-2
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 ³	30.0 min/mm	

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	6.0E+14	ohms	IEC 62631-3-2
Volume Resistivity	> 1.0E+13	ohms·m	IEC 62631-3-1
Relative Permittivity			IEC 62631-2-1
100 Hz	4.10		
1 MHz	4.00		
Dissipation Factor			IEC 62631-2-1
100 Hz	2.5E-3		
1 MHz	4.5E-3		
Comparative Tracking Index	600 V		IEC 60112

Flammability	Nominal Value	Unit	Test Method
Burning Rate ⁴ (0.0394 in)	1.7	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	< 2	ppm	VDA 275
Emission of Organic Compounds	0.300	µgC/g	VDA 277
Fogging			ISO 6452
F-value (refraction)	81	%	
G-value (condensate)	1.0	mg	
Thermal Desorption Analysis of Organic Emissions	0.600	µg/g	VDA 278

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	392 to 410	°F
Melt Temperature, Optimum	401	°F
Mold Temperature	176 to 212	°F
Temperature, Optimum	194	°F
Temperature, Suggested	13100 to 16000	
Recommended	yes	
Preheating Time	8.00	
Spindle Tangential Speed	472	

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 30 min + 5 min/mm of thickness

⁴ FMVSS 302

