

DELTRIN 100 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 Toughness • High Viscosity	• Homopolymer
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)	2.2	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	%	
Across Flow ²	2.4	%	
Flow	2.2	%	
Flow ²	3.0	%	
Water Absorption (24 hr, 73°F)	0.27	%	ISO 62
Water Absorption (Saturation, 73°F, 0.0787 in)	0.90	%	ISO 62
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.20	%	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
Tensile Creep Modulus (1 hr)	421000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	232000	psi	ISO 899-1
Flexural Modulus	406000	psi	ISO 178
Flexural Stress			ISO 178
--	13500	psi	
3.5% Strain	11200	psi	
Compressive Stress	16000	psi	ISO 604
Poisson's Ratio	0.37		
Abrasion Resistance ³	4.00	mm ³	ISO 4649
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	200	ft·lb/in ²	



73°F	No Break	
Notched Izod Impact Strength		ISO 180/1A
-40°F	6.2 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	90	
R-Scale	121	
Ball Indentation Hardness (H 358/30)	25100 psi	ISO 2039-1
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
Deflection Temperature Under Load (264 psi, Annealed)	239 °F	ISO 75-2/A
Vicat Softening Temperature		
--	320 °F	ISO 306/B50
--	347 °F	ISO 306/A50
Melting Temperature ⁴	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	221 °F	
0.12 in	221 °F	
0.24 in	221 °F	
RTI Imp		UL 746B
0.030 in	122 °F	
0.06 in	185 °F	
0.12 in	185 °F	
0.24 in	185 °F	
RTI Str		UL 746B
0.030 in	122 °F	
0.06 in	194 °F	
0.12 in	194 °F	
0.24 in	194 °F	
Annealing Temperature	320 °F	
Annealing Time - Optional	30.0 min/mm	
Effective Thermal Diffusivity	1.55E-10 in ² /s	
Temperature Index		IEC 60216-1
Tensile Strength, 20000 hr	230 °F	
Tensile Strength, 5000 hr	257 °F	
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	3.0E+13 ohms	IEC 62631-3-2
Volume Resistivity	> 1.0E+13 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	3.80	
Dissipation Factor		IEC 62631-2-1
100 Hz	1.0E-3	
1 MHz	5.5E-3	
Comparative Tracking Index	600 V	IEC 60112
Flammability	Nominal Value Unit	Test Method
Flaming Rate ⁵ (0.0394 in)	2.4 in/min	ISO 3795
		UL 94
	HB	
	HB	
Classification		IEC 60695

0.03 in	HB	
0.06 in	HB	
Glow Wire Ignition Temperature		IEC 60695-2-13
0.016 in	1020 °F	
0.030 in	1020 °F	
0.04 in	1020 °F	
0.06 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
Melt Density	1.19 g/cm ³	
Specific Heat Capacity of Melt	0.717 Btu/lb/°F	
Additional Information	Nominal Value Unit	Test Method
Fogging - G-value (condensate)	0.10 mg	ISO 6452

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 Annealed

³ Derived from Similar Grade

⁴ 10°C/min

⁵ FMVSS 302

