

DELTRIN 100ST 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	• Impact Modifier	• Mold Release	
Features	• Good Impact Resistance	• High Toughness	• Homopolymer
	• Good Mold Release	• High Viscosity	• Impact Modified
RoHS Compliance	• Contact Manufacturer		
Automotive Specifications	• ASTM D6778 POM0141	• FORD WSK-M4D681-A	• GM GMP.POM.010
Part Marking Code (ISO 11469)	• >POM-HI<		
Resin ID (ISO 1043)	• POM-HI		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.34	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	2.0	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	1.7	cm ³ /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.1	%	
Flow	0.80	%	
Water Absorption (Saturation, 73°F, 0.0787 in)	0.90	%	ISO 62
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.35	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	203000	psi	ISO 527-1
Tensile Stress (Yield)	5950	psi	ISO 527-2
Tensile Strain (Yield)	30	%	ISO 527-2
Nominal Tensile Strain at Break	> 50	%	ISO 527-2
Tensile Creep Modulus (1 hr)	160000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	79800	psi	ISO 899-1
Flexural Modulus	160000	psi	ISO 178
Flexural Stress (3.5% Strain)	4930	psi	ISO 178
Poisson's Ratio	0.43		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	8.6	ft·lb/in ²	
73°F	43	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength			ISO 180/1A
-40°F	9.5	ft·lb/in ²	
73°F	43	ft·lb/in ²	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	58		
R-Scale	105		
Shore Hardness (Shore D, 15 sec)	70		ISO 48-4



Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	212	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	140	°F	ISO 75-2/A
Glass Transition Temperature ²	-31.0	°F	ISO 11357-2
Vicat Softening Temperature	338	°F	ISO 306/A50
Melting Temperature ²	352	°F	ISO 11357-3
CLTE - Flow	7.2E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	7.8E-5	in/in/°F	ISO 11359-2
RTI Elec			UL 746B
0.06 in	221	°F	
0.12 in	221	°F	
RTI Imp			UL 746B
0.06 in	185	°F	
0.12 in	185	°F	
RTI Str			UL 746B
0.06 in	185	°F	
0.12 in	185	°F	
Annealing Temperature	320	°F	
Annealing Time - Optional	30.0	min/mm	
Effective Thermal Diffusivity	6.00E-8	mm ² /s	

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+14	ohms	IEC 62631-3-2
Volume Resistivity	1.0E+12	ohms·m	IEC 62631-3-1
Relative Permittivity			IEC 62631-2-1
100 Hz	4.40		
1 MHz	3.80		
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 (0.06 in)	HB		UL 94
Flammability Classification (0.06 in)	HB		IEC 60695-11-10, -20
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
Melt Density	1.14	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	4.0 to 8.0	hr
Suggested Max Moisture	< 0.050	%
Processing (Melt) Temp	392 to 410	°F
Melt Temperature, Optimum	401	°F
Mold Temperature	104 to 140	°F
Mold Temperature, Optimum	122	°F
Holding Pressure	8700 to 11600	psi
Drying Recommended	yes	
Hold Pressure Time	7.50	s/mm
Maximum Screw Tangential Speed	472	in/min

Extrusion	Nominal Value	Unit
Drying Temperature	176	°F
Drying Time	4.0 to 8.0	hr
Max Moisture	< 0.050	
Melt Temperature, Optimum	392	



Max Moisture
Melt Temperature, Optimum

