

**DELTRIN FG111DP 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	• Creep Resistant • Crystalline • Fast Molding Cycle • Fatigue Resistant	• Food Contact Acceptable • Good Mold Release • Good Thermal Stability • High Dimensional Stability	• High Viscosity • Homopolymer • Low Warpage
RoHS Compliance	• Contact Manufacturer		
Part Marking Code (ISO 11469)	• >POM<		
Resin ID (ISO 1043)	• POM		

 Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density	1.42	g/cm <sup>3</sup>	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 <sup>3</sup> /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)	10400	psi	ISO 527-2
Tensile Strain (Yield)	20	%	ISO 527-2
Nominal Tensile Strain at Break	40	%	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 <sup>2</sup>	
-22°F	4.5	ft·lb/in <sup>2</sup>	
73°F	5.2	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	160	ft·lb/in <sup>2</sup>	
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 <sup>2</sup>	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 <sup>3</sup> (0.0394 in)	0.98	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 <sup>3</sup>	
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

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min

<sup>3</sup> FMVSS 302

