

**DELTRIN RAFG500P NC010**

Delrin USA, LLC - Acetal (POM) Homopolymer

**General Information**
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Material Status	• Commercial: Active		
Availability	• Africa & Middle East	• Europe	• North America
	• Asia Pacific	• Latin America	
Additive	• Mold Release		
Features	• Food Contact Acceptable	• Good Processability	• Low Emissions
	• General Purpose	• Good Thermal Stability	• Medium Viscosity
	• Good Mold Release	• Homopolymer	• Renewable Resource Content
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)	15	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	13	cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.9	%	
Flow	2.0	%	
Water Absorption (Saturation, 73°F, 0.0787 in)	1.4	%	ISO 62
Water Absorption (Equilibrium, 73°F, 0.0787 in, 50% RH)	0.40	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	450000	psi	ISO 527-1
Tensile Stress (Yield)	10300	psi	ISO 527-2
Tensile Strain (Yield)	17	%	ISO 527-2
Nominal Tensile Strain at Break	30	%	ISO 527-2
Tensile Creep Modulus (1 hr)	406000	psi	ISO 899-1
Tensile Creep Modulus (1000 hr)	232000	psi	ISO 899-1
Flexural Modulus	421000	psi	ISO 178
Flexural Stress (3.5% Strain)	11600	psi	ISO 178
Poisson's Ratio	0.37		
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-40°F	3.8	ft·lb/in <sup>2</sup>	
-22°F	3.8	ft·lb/in <sup>2</sup>	
73°F	4.3	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	130	ft·lb/in <sup>2</sup>	
73°F	140	ft·lb/in <sup>2</sup>	
Notched Izod Impact Strength			ISO 180/1A
-22°F	3.8	ft·lb/in <sup>2</sup>	
73°F	4.3	ft·lb/in <sup>2</sup>	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	92		
R-Scale	120		



Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	316	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	199	°F	ISO 75-2/A
Vicat Softening Temperature	311	°F	ISO 306/B50
Melting Temperature <sup>2</sup>	352	°F	ISO 11357-3
CLTE - Flow	6.1E-5	in/in/°F	ISO 11359-2
CLTE - Transverse	6.1E-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	

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.030 in	HB		
0.06 in	HB		
Flammability Classification			IEC 60695-11-10, -20
0.030 in	HB		
0.06 in	HB		

Additional Information	Nominal Value	Unit	Test Method
Emission	< 8	ppm	VDA 275
Emission of Organic Compounds	3.10	µgC/g	VDA 277
Fogging			ISO 6452
F-value (refraction)	90	%	
G-value (condensate)	0.35	mg	

### 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	11600 to 14500	psi
Drying Recommended	yes	
Hold Pressure Time	8.00	s/mm
Maximum Screw Tangential Speed	709	in/min

### Notes

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

<sup>2</sup> 10°C/min

