

## DuPont Performance Polymers Delrin® 100PE NC010A Acetal Homopolymer

Category : Polymer , Thermoplastic , Acetal (POM)

### Material Notes:

Delrin® 100PE NC010A is a high viscosity acetal homopolymer, an enhanced version of Delrin® 100P with extremely low VOC emissions. It has improved processing thermal stability, good mechanical properties, and toughness. Information provided by DuPont

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DuPont-Performance-Polymers-Delrin-100PE-NC010A-Acetal-Homopolymer.php](http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-100PE-NC010A-Acetal-Homopolymer.php)

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in <sup>3</sup>	ISO 1183
Water Absorption	0.30 %	0.30 %	Equilibrium 50%RH; ISO 62, Similar to
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.60 %	0.60 %	
Linear Mold Shrinkage	@Temperature 23.0 °C	@Temperature 73.4 °F	Immersion 24h; ISO 62, Similar to
	1.4 %	1.4 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Melt Flow	0.020 cm/cm	0.020 in/in	Normal; ISO 294-4
	@Thickness 2.00 mm	@Thickness 0.0787 in	
	0.022 cm/cm	0.022 in/in	
Tensile Strength, Yield	@Thickness 2.00 mm	@Thickness 0.0787 in	Parallel; ISO 294-4
	2.5 g/10 min	2.5 g/10 min	
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F	
Elongation at Break	2.5 g/10 min	2.5 g/10 min	ISO 1133
	70.0 MPa	10200 psi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	45 %	45 %	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	22 %	22 %	
Tensile Modulus	@Temperature 23.0 °C	@Temperature 73.4 °F	ISO 527
	2.90 GPa	421 ksi	
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	70.0 MPa	10200 psi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	45 %	45 %	
Elongation at Break	@Temperature 23.0 °C	@Temperature 73.4 °F	ISO 527
	22 %	22 %	
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	2.90 GPa	421 ksi	ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.90 GPa	421 ksi	

Mechanical Properties	Metric	English	Comments
	2.60 GPa @Temperature 23.0 °C	377 ksi @Temperature 73.4 °F	
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm <sup>2</sup> @Temperature -30.0 °C	4.76 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179/1eA
	1.40 J/cm <sup>2</sup> @Temperature 23.0 °C	6.66 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 179/1eA
Tensile Creep Modulus, 1 hour	2700 MPa @Temperature 23.0 °C	392000 psi @Temperature 73.4 °F	ISO 899
Tensile Creep Modulus, 1000 hours	1500 MPa @Temperature 23.0 °C	218000 psi @Temperature 73.4 °F	ISO 899

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	100 µm/m-°C @Temperature -40.0 - 23.0 °C	55.6 µin/in-°F @Temperature -40.0 - 73.4 °F	ISO 11359-1/-2
	110 µm/m-°C @Temperature 23.0 - 55.0 °C	61.1 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-1/-2
	160 µm/m-°C @Temperature 55.0 - 100 °C	88.9 µin/in-°F @Temperature 131 - 212 °F	ISO 11359-1/-2
CTE, linear, Transverse to Flow	100 µm/m-°C @Temperature -40.0 - 23.0 °C	55.6 µin/in-°F @Temperature -40.0 - 73.4 °F	ISO 11359-1/-2
	110 µm/m-°C @Temperature 23.0 - 55.0 °C	61.1 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-1/-2
	160 µm/m-°C @Temperature 55.0 - 100 °C	88.9 µin/in-°F @Temperature 131 - 212 °F	ISO 11359-1/-2
Melting Point	178 °C	352 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 1.8 MPa (264 psi)	92.0 °C	198 °F	ISO 75-1/-2

Processing Properties	Metric	English	Comments
Melt Temperature	205 °C	401 °F	Optimum; Injection Molding
	200 - 210 °C	392 - 410 °F	Injection Molding
Mold Temperature	90.0 °C	194 °F	Optimum; Injection Molding
	80.0 - 100 °C	176 - 212 °F	Injection Molding
Drying Temperature	80.0 °C	176 °F	Injection Molding
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	Injection Molding
Moisture Content	<= 0.20 %	<= 0.20 %	Injection Molding

Descriptive Properties	Value	Comments
Appearance	Natural Color	
Features	Creep Resistance, Good	
	Dimensional Stability, Good	
	Fatigue Resistant	
	Homopolymer	
	Impact Resistance, High	
	Molecular Wt., High	
	Stiffness, High	
	Strength, High	
	Toughness, Good	
	Viscosity, High	
	VOC, Low	
Forms	Pellets	
Generic	Acetal (POM) Homopolymer	
Material Status	Preliminary Data	
Part Marking Code	>POM<	ISO 11469
Polymer Family	POM	
Polymer Type	POM Homopolymer	

Processing Method Descriptive Properties	Extrusion Value	Comments
	Injection Molding	
Product Category	Extrusion Resins	
	Low Emissions Resins	
	Unreinforced Resins	
Region Available - Global	Yes	
Resin Identification	POM	ISO 1043
RoHS Compliance	Contact Manufacturer	
Uses	Automotive Interior Parts	
	Fasteners	
	Gears	
	Parts, Engineering	

## Contact Songhan Plastic Technology Co.,Ltd.

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