

DuPont Performance Polymers Delrin® 100AL NC010 Acetal Homopolymer (Unverified Data**)

Category : Polymer , Thermoplastic , Acetal (POM)

Material Notes:

Delrin® 100AL NC010 an unreinforced, high viscosity, lubricated acetal homopolymer resin, containing an advanced system of lubrication for low wear and friction against metals and plastics. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-100AL-NC010-Acetal-Homopolymer-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.40 g/cc	0.0506 lb/in ³	ISO 1183
Linear Mold Shrinkage, Flow	0.020 cm/cm @Thickness 2.00 mm	0.020 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.018 cm/cm @Thickness 2.00 mm	0.018 in/in @Thickness 0.0787 in	ISO 294-4
Melt Flow	2.5 g/10 min @Load 2.16 kg, Temperature 190 °C	2.5 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133
Melt Index of Compound	1.7 g/10 min @Load 2.16 kg, Temperature 190 °C	1.7 g/10 min @Load 4.76 lb, Temperature 374 °F	cm ³ /10 min; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	70.0 MPa @Temperature 23.0 °C	10200 psi @Temperature 73.4 °F	ISO 527
Elongation at Break	45 % @Temperature 23.0 °C	45 % @Temperature 73.4 °F	nominal; ISO 527
	65 % @Temperature 23.0 °C	65 % @Temperature 73.4 °F	50mm/min; ISO 527
Elongation at Yield	18 % @Temperature 23.0 °C	18 % @Temperature 73.4 °F	ISO 527
Tensile Modulus	3.00 GPa @Temperature 23.0 °C	435 ksi @Temperature 73.4 °F	ISO 527
	2.80 GPa	406 ksi	

Flexural Modulus Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ISO 178 Comments
Izod Impact, Notched (ISO)	8.00 kJ/m ² @Temperature 23.0 °C	3.81 ft-lb/in ² @Temperature 73.4 °F	ISO 180/1A
Charpy Impact Unnotched	17.0 J/cm ² @Temperature -30.0 °C	80.9 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
	25.0 J/cm ² @Temperature 23.0 °C	119 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.700 J/cm ² @Temperature -30.0 °C	3.33 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	0.900 J/cm ² @Temperature 23.0 °C	4.28 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	500 µm/m-°C @Temperature -40.0 - 23.0 °C	278 µin/in-°F @Temperature -40.0 - 73.4 °F	ISO 11359-1/-2
	500 µm/m-°C @Temperature 23.0 - 55.0 °C	278 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-1/-2
	500 µm/m-°C @Temperature 55.0 - 100 °C	278 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
	150 µm/m-°C @Temperature 55.0 - 100 °C	83.3 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 0.46 MPa (66 psi)	163 °C	325 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa	97.0 °C	207 °F	

Thermal Properties	Metric	English	ISO 75-1/-2 Comments
UL RTI, Electrical	50.0 °C	122 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
	50.0 °C	122 °F	UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
UL RTI, Mechanical with Impact	50.0 °C	122 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
	50.0 °C	122 °F	UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
UL RTI, Mechanical without Impact	50.0 °C	122 °F	UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	50.0 °C	122 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	HB	HB	IEC 60695-11-10
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	IEC 60695-11-10
	@Thickness 3.00 mm	@Thickness 0.118 in	
	HB	HB	UL94
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	UL94
	@Thickness 3.00 mm	@Thickness 0.118 in	

Processing Properties	Metric	English	Comments
Melt Temperature	215 °C	419 °F	Optimum; Injection Molding
	210 - 220 °C	410 - 428 °F	
Mold Temperature	90.0 °C	194 °F	optimum; Injection Molding
	80.0 - 100 °C	176 - 212 °F	
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
Additive	Lubricant	
Appearance	Natural Color	
Drying Recommended	Not normally required unless moisture content of resin exceeds recommended level	
Features	Creep Resistance, Good	
	Friction, Low	
	Homopolymer	
	Impact Resistance, High	
	Lubricated	
	Viscosity, High	
	Wear Resistance, Good	
	Forms	Pellets
Generic	Acetal (POM) Homopolymer	
Material Status	Current	
Part Marking Code	>POM-S<	ISO 11469
Polymer Family	POM	
Polymer Type	POM Homopolymer	
Processing Method	Extrusion	
	Injection Molding	
Product Category	Extrusion Resins	
	Low Wear and Friction Resins	
	Unreinforced Resins	
Region Available - Global	Yes	
Resin Identification	POM-S	ISO 1043
RoHS Compliance	Contact Manufacturer	
Ultrasonic Weldable	Yes	
Uses	Conveyors	
	Gears	

Descriptive Properties	Value	Comments
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Parts, Engineering

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