

DuPont Performance Polymers Delrin® FG500AL NC010 Acetal Homopolymer (Unverified Data**)

Category : Polymer , Thermoplastic , Acetal (POM)

Material Notes:

Delrin® FG500AL is a medium viscosity acetal homopolymer, lubricated for low wear and /or coefficient of friction. It has been developed for consideration into applications such as parts for the food industry. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-FG500AL-NC010-Acetal-Homopolymer-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.38 g/cc	0.0499 lb/in ³	ISO 1183
Linear Mold Shrinkage, Flow	0.018 cm/cm @Thickness 2.00 mm	0.018 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.017 cm/cm @Thickness 2.00 mm	0.017 in/in @Thickness 0.0787 in	ISO 294-4
Melt Flow	14 g/10 min @Load 2.16 kg, Temperature 190 °C	14 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133
Melt Index of Compound	12 g/10 min @Load 2.16 kg, Temperature 190 °C	12 g/10 min @Load 4.76 lb, Temperature 374 °F	cm ³ /10 min; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	65.0 MPa @Temperature 23.0 °C	9430 psi @Temperature 73.4 °F	ISO 527
Elongation at Break	23 % @Temperature 23.0 °C	23 % @Temperature 73.4 °F	nominal; ISO 527
Elongation at Yield	11 % @Temperature 23.0 °C	11 % @Temperature 73.4 °F	ISO 527
Tensile Modulus	3.00 GPa @Temperature 23.0 °C	435 ksi @Temperature 73.4 °F	ISO 527
Flexural Modulus	2.80 GPa @Temperature 23.0 °C	406 ksi @Temperature 73.4 °F	ISO 178
	13.0 J/cm ²	61.9 ft-lb/in ²	

Charpy Impact Unnotched Mechanical Properties	Metric @ Temperature -30.0 °C	English @ Temperature -22.0 °F	ISO 179/1eU Comments
	16.0 J/cm ² @Temperature 23.0 °C	76.1 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.600 J/cm ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	0.700 J/cm ² @Temperature 23.0 °C	3.33 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA
Tensile Creep Modulus, 1 hour	2400 MPa @Temperature 23.0 °C	348000 psi @Temperature 73.4 °F	ISO 899
Tensile Creep Modulus, 1000 hours	1600 MPa @Temperature 23.0 °C	232000 psi @Temperature 73.4 °F	ISO 899

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
	120 µm/m-°C @Temperature 23.0 - 55.0 °C	66.7 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-1/-2
	170 µm/m-°C @Temperature 55.0 - 100 °C	94.4 µin/in-°F @Temperature 131 - 212 °F	ISO 11359-1/-2
	Melting Point	178 °C	352 °F
Deflection Temperature at 0.46 MPa (66 psi)	164 °C	327 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa	97.0 °C	207 °F	

(264 psi) Thermal Properties	Metric	English	ISO 75-1/-2 Comments
Processing Properties	Metric	English	Comments
Melt Temperature	215 °C	419 °F	Optimum; Injection Molding
	210 - 220 °C	410 - 428 °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	<= 0.10 %	<= 0.10 %	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	
	Lubricated	
	Viscosity, Medium	
	Wear Resistance, Good	
	Forms	Pellets
Generic	Acetal (POM) Homopolymer	
Material Status	Preliminary Data	
Part Marking Code	>POM-S<	ISO 11469
Polymer Family	POM	
Polymer Type	POM Homopolymer	
Processing Method	Injection Molding	
Product Category	Food Contact Resins	

Descriptive Properties	Low Wear and Friction Resins Value	Comments
	Unreinforced Resins	
Region Available - Global	Yes	
Resin Identification	POM-S	ISO 1043
RoHS Compliance	Contact Manufacturer	
Ultrasonic Weldable	Yes	
Uses	Conveyors	
	Conveyors	
	Food Applications, Non-specific	
	Gears	
	Parts, Engineering	

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