

DuPont Performance Polymers Delrin® 511DP BK402 Acetal Homopolymer (Unverified Data**)

Category : Polymer , Thermoplastic , Acetal (POM)

Material Notes:

Delrin® 511DP is a medium viscosity acetal homopolymer with improved thermal stability and modifications for more precise molding (reduced warpage, less shrinkage, fewer voids). Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-511DP-BK402-Acetal-Homopolymer-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183
Linear Mold Shrinkage, Flow	0.019 cm/cm @Thickness 2.00 mm	0.019 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	15 g/10 min @Load 2.16 kg, Temperature 190 °C	15 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133
Melt Index of Compound	13 g/10 min @Load 2.16 kg, Temperature 190 °C	13 g/10 min @Load 4.76 lb, Temperature 374 °F	cm ³ /10 min; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	73.0 MPa @Temperature 23.0 °C	10600 psi @Temperature 73.4 °F	ISO 527
Elongation at Break	20 % @Temperature 23.0 °C	20 % @Temperature 73.4 °F	nominal; ISO 527
Elongation at Yield	12 % @Temperature 23.0 °C	12 % @Temperature 73.4 °F	ISO 527
Tensile Modulus	3.40 GPa @Temperature 23.0 °C	493 ksi @Temperature 73.4 °F	ISO 527
Flexural Strength	85.0 MPa @Strain 3.50 %, Temperature 23.0 °C	12300 psi @Strain 3.50 %, Temperature 73.4 °F	ISO 178

Mechanical Properties	3.20 GPa Metric	464 ksi English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	16.0 J/cm ²	76.1 ft-lb/in ²	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	16.0 J/cm ²	76.1 ft-lb/in ²	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
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 (264 psi)	105 °C	221 °F	ISO 75-1/-2

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	<= 0.20 %	<= 0.20 %	Injection Molding

Descriptive Properties	Value	Comments
Appearance	Black Color	
Drying Recommended	Not normally required unless moisture content of resin exceeds recommended level	
Features	Dimensional Stability, Good	
Forms	Pellets	

Generic Descriptive Properties	Acetal (POM) Homopolymer Value	Comments
Material Status	Preliminary Data	
Part Marking Code	>POM<	ISO 11469
Polymer Family	POM	
Polymer Type	POM Homopolymer	
Processing Method	Extrusion	
	Injection Molding	
Product Category	Unreinforced Resins	
Region Available - Global	Yes	
Resin Identification	POM	ISO 1043
RoHS Compliance	Contact Manufacturer	
Uses	Fasteners	
	Gears	
	Parts, Engineering	

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