

DuPont Performance Polymers Delrin® 500P BK602 Acetal Homopolymer (Unverified Data**)

Category : Polymer , Thermoplastic , Acetal (POM)

Material Notes:

Delrin® 500P BK602 is a general purpose medium viscosity black acetal homopolymer resin for injection molding. Delrin® 500P has improved processing thermal stability compared to Delrin® 500. Information provided by DuPont Performance Polymers

Order this product through the following link:

http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-500P-BK602-Acetal-Homopolymer-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183
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

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	71.0 MPa @Temperature 23.0 °C	10300 psi @Temperature 73.4 °F	ISO 527
Elongation at Break	25 % @Temperature 23.0 °C	25 % @Temperature 73.4 °F	nominal; ISO 527
Elongation at Yield	35 % @Temperature 23.0 °C	35 % @Temperature 73.4 °F	ISO 527
Tensile Modulus	14 % @Temperature 23.0 °C	14 % @Temperature 73.4 °F	ISO 527
Tensile Modulus	3.10 GPa @Temperature 23.0 °C	450 ksi @Temperature 73.4 °F	ISO 527
Flexural Modulus	3.00 GPa @Temperature 23.0 °C	435 ksi @Temperature 73.4 °F	ISO 178
Izod Impact, Notched (ISO)	8.00 kJ/m ² @Temperature -40.0 °C	3.81 ft-lb/in ² @Temperature -40.0 °F	ISO 180/1A
	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	18.0 J/cm ²	85.7 ft-lb/in ²	ISO 179/1eU

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.800 J/cm ²	3.81 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.900 J/cm ²	4.28 ft-lb/in ²	ISO 179/1eA
	@Temperature -40.0 °C	@Temperature -40.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	500 µm/m-°C	278 µin/in-°F	ISO 11359-1/-2
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	500 µm/m-°C	278 µin/in-°F	
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	ISO 11359-1/-2
	500 µm/m-°C	278 µin/in-°F	
	@Temperature 55.0 - 100 °C	@Temperature 131 - 212 °F	
CTE, linear, Transverse to Flow	98.0 µm/m-°C	54.4 µin/in-°F	ISO 11359-1/-2
	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	
	115 µm/m-°C	63.9 µin/in-°F	
	@Temperature 23.0 - 55.0 °C	@Temperature 73.4 - 131 °F	ISO 11359-1/-2
	167 µm/m-°C	92.8 µin/in-°F	
	@Temperature 55.0 - 100 °C	@Temperature 131 - 212 °F	
Melting Point	178 °C	352 °F	10°C/min; ISO 11357-1/-3
Deflection Temperature at 0.46 MPa (66 psi)	162 °C	324 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	96.0 °C	205 °F	ISO 75-1/-2
UL RTI, Electrical	50.0 °C	122 °F	UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	110 °C	230 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	

Thermal Properties	Metric	English	Comments
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746B
UL RTI, Mechanical with Impact	50.0 °C	122 °F	UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	85.0 °C	185 °F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	90.0 °C	194 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	50.0 °C	122 °F	UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	90.0 °C	194 °F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	95.0 °C	203 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	HB	HB	IEC 60695-11-10
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	IEC 60695-11-10
	@Thickness 3.00 mm	@Thickness 0.118 in	
	HB	HB	IEC 60695-11-10
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	UL94
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	UL94
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	HB	HB	UL94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	UL94
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	600 V	600 V	IEC 60112

Electrical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	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	<= 0.20 %	<= 0.20 %	Injection Molding

Descriptive Properties	Value	Comments
Appearance	Black Color	
Drying Recommended	Not normally required unless moisture content of resin exceeds recommended level	
Extrudable - Cast Film	Yes	
Extrudable - Sheet	Yes	
Extrudable - Tubing	Yes	
Extrudable - Wire and Cable	Yes	
Features	Creep Resistance, Good	
	Dimensional Stability, Good	
	Fatigue Resistant	
	Homopolymer	
	Impact Resistance, Good	
	Stiffness, High	
	Strength, High	
	Viscosity, Medium	
Forms	Pellets	
Generic	Acetal (POM) Homopolymer	
Material Status	Current	

Part Marking Code Descriptive Properties	~POM~ Value	ISO 11469 Comments
Polymer Family	POM	
Polymer Type	POM Homopolymer	
Processing Method	Extrusion	
	Extrusion	
	Injection Molding	
Product Category	Unreinforced Resins	
Region Available - Global	Yes	
Resin Identification	POM	ISO 1043
RoHS Compliance	Contact Manufacturer	
Ultrasonic Weldable	Yes	
Uses	Automotive Applications	
	Fasteners	
	Gears	
	General Purpose	
	Parts, Engineering	

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