DuPont Performance Polymers Delrin® 577 BK000 Acetal Homopolymer (Unverified Data**)

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Homopolymer, Glass Fiber Reinforced

Material Notes:

Delrin® 577 BK000 is a medium viscosity acetal homopolymer containing 20% glass fiber filler, with high stiffness, low warpage and low creep for superior performance at elevated temperature. It contains carbon black for improved weathering.Information provided by DuPont Performance Polymers

Order this product through the following link:
http://www.lookpolymers.com/polymer_DuPont-Performance-Polymers-Delrin-577-BK000-Acetal-Homopolymer-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.56 g/cc	1.56 g/cc	ASTM D792
Density	1.56 g/cc	0.0564 lb/in³	ISO 1183
Filler Content	20 %	20 %	
Water Absorption	0.22 % @Temperature 23.0 °C	0.22 % @Temperature 73.4 °F	Equilibrium 50%RH; ASTM D570
	0.25 % @Temperature 23.0 °C	0.25 % @Temperature 73.4 °F	Immersion 24h; ASTM D570
	1.0 % @Temperature 23.0 °C	1.0 % @Temperature 73.4 °F	Saturation; ASTM D570
Melt Flow	4.0 g/10 min @Load 1.05 kg, Temperature 190 °C	4.0 g/10 min @Load 2.31 lb, Temperature 374 °F	ASTM D1238
Melt Index of Compound	7.0 g/10 min @Load 2.16 kg, Temperature 190 °C	7.0 g/10 min @Load 4.76 lb, Temperature 374 °F	cm3/10 min; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	90	90	ASTM D785
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength at Break	52.0 MPa @Temperature 23.0 °C	7540 psi @Temperature 73.4 °F	ISO 527
Tensile Strength	28.0 MPa @Temperature 100 °C	4060 psi @Temperature 212 °F	5mm/min (0.2in/min); ASTM D638

Mechanical Properties	Metric	English	Comments
	@Temperature 70.0 °C	@Temperature 158 °F	5mm/min (0.2in/min); ASTM D638
	58.0 MPa @Temperature 23.0 °C	8410 psi @Temperature 73.4 °F	5mm/min (0.2in/min); ASTM D638
Tensile Strength, Yield	57.0 MPa @Temperature 23.0 °C	8270 psi @Temperature 73.4 °F	5mm/min (0.2in/min); ASTM D638
Elongation at Break	10 % @Temperature 23.0 °C	10 % @Temperature 73.4 °F	ISO 527
	10 % @Temperature 23.0 °C	10 % @Temperature 73.4 °F	5mm/min (0.2in/min); ASTM D638
	50 % @Temperature 70.0 °C	50 % @Temperature 158 °F	5mm/min (0.2in/min); ASTM D638
	>= 250 % @Temperature 100 °C	>= 250 % @Temperature 212 °F	5mm/min (0.2in/min); ASTM D638
Elongation at Yield	5.0 % @Temperature 23.0 °C	5.0 % @Temperature 73.4 °F	5mm/min (0.2in/min); ASTM D638
Tensile Modulus	4.80 GPa @Temperature 23.0 °C	696 ksi @Temperature 73.4 °F	ISO 527
	5.70 GPa @Temperature 23.0 °C	827 ksi @Temperature 73.4 °F	5mm/min (0.2in/min); ASTM D638
Flexural Strength	74.0 MPa @Strain 5.00 %, Temperature 23.0 °C	10700 psi @Strain 5.00 %, Temperature 73.4 °F	ASTM D790
Flexural Modulus	1.85 GPa @Temperature 121 °C	268 ksi @Temperature 250 °F	ASTM D790
	2.05 GPa @Temperature 100 °C	297 ksi @Temperature 212 °F	ASTM D790
	3.80 GPa @Temperature 70.0 °C	551 ksi @Temperature 158 °F	ASTM D790
	4.60 GPa @Temperature 23.0 °C	667 ksi @Temperature 73.4 °F	ISO 178

Mechanical Properties	Metric	English	Comments
	4.80 GPa @Temperature 23.0 °C	696 ksi @Temperature 73.4 °F	ASTM D790
Shear Strength	66.0 MPa @Temperature 23.0 °C	9570 psi @Temperature 73.4 °F	ASTM D732
Izod Impact, Notched	0.270 J/cm @Temperature -40.0 °C	0.506 ft-lb/in @Temperature -40.0 °F	ASTM D256
	0.340 J/cm @Temperature 23.0 °C	0.637 ft-lb/in @Temperature 73.4 °F	ASTM D256
Charpy Impact, Notched	0.300 J/cm² @Temperature 23.0 °C	1.43 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eA
	0.300 J/cm² @Temperature -30.0 °C	1.43 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eA
Tensile Impact Strength	69.0 kJ/m² @Temperature 23.0 °C	32.8 ft-lb/in² @Temperature 73.4 °F	Long specimen; ASTM D1822

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	500 µm/m-°C @Temperature -40.0 - 30.0 °C	278 µin/in-°F @Temperature -40.0 - 86.0 °F	ASTM E 831
	500 µm/m-°C @Temperature 23.0 - 55.0 °C	278 µin/in-°F @Temperature 73.4 - 131 °F	ASTM E 831
	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 -40.0 - 30.0 °C	278 µin/in-°F @Temperature -40.0 - 86.0 °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
	77.0 µm/m-°C	42.8 µin/in-°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Transverse to Flow	@Temperature -40.0 - 23.0 °C	@Temperature -40.0 - 73.4 °F	ISO 11359-1/-2
	92.0 µm/m-°C @Temperature 23.0 - 55.0 °C	51.1 µin/in-°F @Temperature 73.4 - 131 °F	ISO 11359-1/-2
	92.0 µm/m-°C @Temperature 23.0 - 55.0 °C	51.1 µin/in-°F @Temperature 73.4 - 131 °F	ASTM E 831
	110 µm/m-°C @Temperature 55.0 - 100 °C	61.1 µin/in-°F @Temperature 131 - 212 °F	ISO 11359-1/-2
Melting Point	178 °C	352 °F	10°C/min; ISO 11357-1/-3
	178 °C	352 °F	ASTM D3418
Deflection Temperature at 0.46 MPa (66 psi)	164 °C	327 °F	ISO 75-1/-2
	169 °C	336 °F	Annealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	118 °C	244 °F	ISO 75-1/-2
	147 °C	297 °F	Annealed; ASTM D648
UL RTI, Electrical	105 °C @Thickness 6.00 mm	221 °F @Thickness 0.236 in	UL 746B
	105 °C @Thickness 3.00 mm	221 °F @Thickness 0.118 in	UL 746B
	105 °C @Thickness 1.50 mm	221 °F @Thickness 0.0591 in	UL 746B
UL RTI, Mechanical with Impact	85.0 °C @Thickness 1.50 mm	185 °F @Thickness 0.0591 in	UL 746B
	85.0 °C @Thickness 3.00 mm	185 °F @Thickness 0.118 in	UL 746B
	85.0 °C @Thickness 6.00 mm	185 °F @Thickness 0.236 in	UL 746B
UL RTI, Mechanical without Impact	90.0 °C @Thickness 3.00 mm	194 °F @Thickness 0.118 in	UL 746B

Thermal Properties	Metric	English	Comments
	90.0 °C @Thickness 6.00 mm	194 °F @Thickness 0.236 in	UL 746B
	90.0 °C @Thickness 1.50 mm	194 °F @Thickness 0.0591 in	UL 746B
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	UL94
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	UL94
	HB @Thickness 6.00 mm	HB @Thickness 0.236 in	UL94
	HB @Thickness 6.00 mm	HB @Thickness 0.236 in	IEC 60695-11-10
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	IEC 60695-11-10
	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	IEC 60695-11-10

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm @Temperature 23.0 °C	1.00e+14 ohm-cm @Temperature 73.4 °F	ASTM D257
Dielectric Constant	3.9 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	3.9 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	ASTM D150
Dissipation Factor	0.0050 @Frequency 1.00e+6 Hz, Temperature 23.0 °C	0.0050 @Frequency 1.00e+6 Hz, Temperature 73.4 °F	ASTM D150

Processing Properties	Metric	English	Comments
Melt Temperature	215 °C	419 °F	Optimum; Injection Molding
	210 - 220 °C	410 - 428 °F	Injection Molding

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