



DuPont™ Delrin® 500CL BK601

DuPont Engineering Polymers - Acetal (POM) Homopolymer

Thursday, July 24, 2008

General Information

Product Description

Delrin® 500CL BK601 is a medium viscosity acetal homopolymer containing a chemical lubricant, designed for low wear and friction against metals.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Additive	• Lubricant		
Features	• Good Creep Resistance • Good Wear Resistance • High Stiffness	• High Strength • Homopolymer • Low Friction	• Lubricated • Medium Viscosity • Ultrasonic Weldable
Uses	• Automotive Applications	• Engineering Parts	• Gears
RoHS Compliance	• Contact Manufacturer		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	
Part Marking Code (ISO 11469)	• >POM<		
Resin ID (ISO 1043)	• POM		

ASTM and ISO Properties ¹

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	15 g/10 min	15 g/10 min	ISO 1133
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus (73 °F (23 °C))	464000 psi	3200 MPa	ISO 527-2
Tensile Stress (Yield, 73 °F (23 °C))	9720 psi	67.0 MPa	ISO 527-2
Tensile Strain (Yield, 73 °F (23 °C))	13 %	13 %	ISO 527-2
Tensile Strain (Break, 73 °F (23 °C))	23 %	23 %	ISO 527-2/50
Nominal Tensile Strain at Break 73 °F (23 °C)	18 %	18 %	ISO 527-2
Flexural Modulus (73 °F (23 °C))	421000 psi	2900 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength -22 °F (-30 °C)	3.81 ft-lb/in ²	8.00 kJ/m ²	ISO 179/1eA
73 °F (23 °C)	4.28 ft-lb/in ²	9.00 kJ/m ²	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature 66 psi (0.45 MPa), Unannealed	320 °F	160 °C	ISO 75-2/B
Heat Deflection Temperature 264 psi (1.8 MPa), Unannealed	194 °F	90.0 °C	ISO 75-2/A
Melting Temperature (DSC) ²	352 °F	178 °C	ISO 11357-3
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Comparative Tracking Index	600 V	600 V	IEC 60112

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Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating - UL			UL 94
0.0295 in (0.750 mm)	HB	HB	
0.0591 in (1.50 mm)	HB	HB	
0.118 in (3.00 mm)	HB	HB	
Flammability Classification			IEC 60695-11-10, -20
0.0295 in (0.750 mm)	HB	HB	
0.0591 in (1.50 mm)	HB	HB	
0.118 in (3.00 mm)	HB	HB	

UL 746	Nominal Value (English)	Nominal Value (SI)	Test Method
RTI Str			UL 746
0.0295 in (0.750 mm)	122 °F	50.0 °C	
0.0591 in (1.50 mm)	185 °F	85.0 °C	
0.118 in (3.00 mm)	185 °F	85.0 °C	
RTI Imp			UL 746
0.0295 in (0.750 mm)	122 °F	50.0 °C	
0.0591 in (1.50 mm)	176 °F	80.0 °C	
0.118 in (3.00 mm)	176 °F	80.0 °C	
RTI Elec			UL 746
0.0295 in (0.750 mm)	122 °F	50.0 °C	
0.0591 in (1.50 mm)	212 °F	100 °C	
0.118 in (3.00 mm)	212 °F	100 °C	
Comparative Tracking Index (CTI)			UL 746
0.118 in (3.00 mm)	600 V	600 V	

Additional Information	Nominal Value (English)	Nominal Value (SI)
Additional Properties (Drying Recommended)	Not normally required unless moisture content of resin exceeds recommended level	Not normally required unless moisture content of resin exceeds recommended level

Processing Information

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 °F	80.0 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Suggested Max Moisture	0.20 %	0.20 %
Processing (Melt) Temp	410 to 428 °F	210 to 220 °C
Mold Temperature	176 to 212 °F	80.0 to 100 °C
Melt Temperature, Optimum	215 °C	215 °C
Mold Temperature, Optimum	90.0 °C	90.0 °C

Notes

¹ Typical properties: these are not to be construed as specifications.

² 10°C/min