



## DuPont™ Delrin® 527UV BK701

DuPont Engineering Polymers - Acetal (POM) Homopolymer

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### General Information

#### Product Description

Delrin® 527UV BK701 is a medium viscosity black acetal homopolymer resin with UV stabilizers developed for automotive interior applications. It has improvements in UV aging characteristics and thermal stability over Delrin® 507.

#### General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Additive	• UV Stabilizer		
Features	• Fatigue Resistant • Good Creep Resistance • Good Impact Resistance	• Good UV Resistance • High Stiffness • High Strength	• Homopolymer • Medium Viscosity • Ultrasonic Weldable
Uses	• Automotive Interior Parts • Cast Film	• Engineering Parts • Sheet	• Tubing • Wire & Cable Applications
RoHS Compliance	• Contact Manufacturer		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Cast Film • Extrusion	• Injection Molding • Profile Extrusion	• Sheet Extrusion
Part Marking Code (ISO 11469)	• >POM<		
Resin ID (ISO 1043)	• POM		

### ASTM and ISO Properties <sup>1</sup>

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.41 g/cm <sup>3</sup>	1.41 g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	15 g/10 min	15 g/10 min	ISO 1133
Molding Shrinkage (Flow, 0.157 in (4.00 mm))	1.8 %	1.8 %	ISO 294-4
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))	10300 psi	71.0 MPa	ISO 527-2
Tensile Strain (Yield, 73 °F (23 °C))	14 %	14 %	ISO 527-2
Tensile Strain (Break, 73 °F (23 °C))	35 %	35 %	ISO 527-2/50
Nominal Tensile Strain at Break 73 °F (23 °C)	23 %	23 %	ISO 527-2
Flexural Modulus (73 °F (23 °C))	435000 psi	3000 MPa	ISO 178
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22 °F (-30 °C)	3.33 ft-lb/in <sup>2</sup>	7.00 kJ/m <sup>2</sup>	
73 °F (23 °C)	4.28 ft-lb/in <sup>2</sup>	9.00 kJ/m <sup>2</sup>	
Notched Izod Impact Strength (73 °F (23 °C))	3.33 ft-lb/in <sup>2</sup>	7.00 kJ/m <sup>2</sup>	ISO 180/1A

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Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature 66 psi (0.45 MPa), Unannealed	325 °F	163 °C	ISO 75-2/B
Heat Deflection Temperature 264 psi (1.8 MPa), Unannealed	198 °F	92.0 °C	ISO 75-2/A
Melting Temperature (DSC) <sup>2</sup>	352 °F	178 °C	ISO 11357-3
Coefficient of Linear Thermal Expansion, Flow			ISO 11359-2
-40 to 73 °F (-40 to 23 °C)	0.000052 in/in/°F	0.000094 cm/cm/°C	
73 to 131 °F (23 to 55 °C)	0.000061 in/in/°F	0.00011 cm/cm/°C	
131 to 212 °F (55 to 100 °C)	0.000078 in/in/°F	0.00014 cm/cm/°C	
Coefficient of Linear Thermal Expansion, Transverse			ISO 11359-2
-40 to 73 °F (-40 to 23 °C)	0.000054 in/in/°F	0.000097 cm/cm/°C	
73 to 131 °F (23 to 55 °C)	0.000061 in/in/°F	0.00011 cm/cm/°C	
131 to 212 °F (55 to 100 °C)	0.000089 in/in/°F	0.00016 cm/cm/°C	

Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating - UL			UL 94
0.0331 in (0.840 mm)	HB	HB	
0.0591 in (1.50 mm)	HB	HB	
0.118 in (3.00 mm)	HB	HB	
0.236 in (6.00 mm)	HB	HB	
Flammability Classification			IEC 60695-11-10, -20
0.0331 in (0.840 mm)	HB	HB	
0.0591 in (1.50 mm)	HB	HB	
0.118 in (3.00 mm)	HB	HB	
0.236 in (6.00 mm)	HB	HB	

UL 746	Nominal Value (English)	Nominal Value (SI)	Test Method
RTI Str			UL 746
0.0331 in (0.840 mm)	122 °F	50.0 °C	
0.0591 in (1.50 mm)	122 °F	50.0 °C	
0.118 in (3.00 mm)	122 °F	50.0 °C	
RTI Imp			UL 746
0.0331 in (0.840 mm)	122 °F	50.0 °C	
0.0591 in (1.50 mm)	122 °F	50.0 °C	
0.118 in (3.00 mm)	122 °F	50.0 °C	
RTI Elec			UL 746
0.0331 in (0.840 mm)	122 °F	50.0 °C	
0.0591 in (1.50 mm)	122 °F	50.0 °C	
0.118 in (3.00 mm)	122 °F	50.0 °C	

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

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<b>Processing Information</b>		
<b>Injection</b>	<b>Nominal Value (English)</b>	<b>Nominal Value (SI)</b>
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**

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 10°C/min