

## Ultraform® S 2320 003 AT BK120

### BASF Corporation - Acetal (POM) Copolymer

Saturday, November 2, 2019

#### **General Information**

#### **Product Description**

Ultraform S 2320 003 AT BK120 is a pigmented black, easy flowing and rapidly freezing injection molding POM grade. Contains a mold release agent.

Typical applications include difficult, thin-walled parts.

General	·		
Material Status	Commercial: Active		
Availability	<ul> <li>North America</li> </ul>		
Additive	Mold Release		
Features	<ul> <li>Copolymer</li> </ul>	<ul> <li>Good Flow</li> </ul>	<ul> <li>Good Mold Release</li> </ul>
Uses	<ul> <li>Thin-walled Parts</li> </ul>		
Agency Ratings	• EC 1907/2006 (REAC	H)	
RoHS Compliance	<ul> <li>RoHS Compliant</li> </ul>		
Appearance	• Black		
Forms	<ul> <li>Pellets</li> </ul>		
Processing Method	Injection Molding		

ASTM & ISO P	Properties 1		
Physical	Nominal Value	Unit	Test Method
Density	1.41	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)	11	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	2.1	%	
Flow	2.1	%	
Water Absorption (Saturation, 73°F)	0.90	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.25	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	392000	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	9280	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	9.5	%	ISO 527-2
Nominal Tensile Strain at Break (73°F)	25	%	ISO 527-2
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
-22°F	2.6	ft·lb/in²	
73°F	2.9	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179
-22°F	86	ft·lb/in²	
73°F	95	ft·lb/in²	
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (264 psi, Unannealed)	167	°F	ISO 75-2/A
Melting Temperature (DSC)	333	°F	ISO 3146
CLTE - Flow	6.1E-5	in/in/°F	ISO 11359-2



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Surface Resistivity         1.0E+13         ohms         IEC 60093           Volume Resistivity         1.0E+13         ohms cm         IEC 60093           Dielectric Constant (1 MHz)         3.80         IEC 60250           Dissipation Factor (1 MHz)         5.0E-3         IEC 60250           Comparative Tracking Index         600         V         IEC 60112           Flammability         Nominal Value         UL 94           Flame Rating         UL 94           0.030 in         HB           0.06 in         HB           0.12 in         HB	Thermal	Nominal Value	Unit	Test Method
0.06 in         221         "F           0.12 in         221         "F           RTI Imp         UL 746           0.06 in         194         "F           0.12 in         194         "F           RTI Str         UL 746           0.06 in         194         "F           0.12 in         221         "F           Electrical         Nominal Value         VI         Test Method           Surface Resistivity         1.0E+13         ohms -cm         IEC 60093           Volume Resistivity         1.0E+13         ohms -cm         IEC 60093           Dielectric Constant (1 MHz)         3.80         IEC 60250           Dissipation Factor (1 MHz)         3.80         V         IEC 60250           Comparative Tracking Index         600         V         IEC 60120           Plame Rating         Nominal Value         UL 94           0.030 in         HB         UL 94           0.05 in         HB         HB           0.05 in         HB         HB           0.12 in         HB         HB           0.12 in         HB         HB           0.12 in         HB         HB <t< td=""><td>RTI Elec</td><td></td><td></td><td>UL 746</td></t<>	RTI Elec			UL 746
0.12 in         221         °F           RTI Imp         UL 746           0.06 in         194         °F           0.12 in         194         °F           RTI Str         UL 746           0.06 in         194         °F           0.12 in         221         °F           Electrical         Nominal Value         UN         Test Method           Surface Resistivity         1.0E+13         ohms cm         IEC 60093           Volume Resistivity         1.0E+13         ohms cm         IEC 60093           Dielectric Constant (1 MHz)         3.80         IEC 60250           Dissipation Factor (1 MHz)         5.0E-3         IEC 60250           Comparative Tracking Index         600         V         IEC 60250           Flame Rating         Nominal Value         UL 94           0.030 in         HB         UL 94           0.030 in         HB         HB           0.020 in         HB         HB           0.030 in         HB         HB           0.12 in         HB         HB           Drying Temperature         176 to 230         "F           Drying Temperature         176 to 230         "F <td>0.030 in</td> <td>221</td> <td>°F</td> <td></td>	0.030 in	221	°F	
RTI Imp	0.06 in	221	°F	
0.06 in   194	0.12 in	221	°F	
0.12 in         194         °F           RTI Str         UL 746           0.06 in         194         °F           0.12 in         221         °F           Electrical         Nominal Velow         Unit         Test Method           Surface Resistivity         1.0E+13         ohms-cm         IEC 60093           Volume Resistivity         1.0E+13         ohms-cm         IEC 60093           Dielectric Constant (1 MHz)         3.80         IEC 60250           Dissipation Factor (1 MHz)         5.0E-3         IEC 60250           Comparative Tracking Index         600         V         IEC 60112           Flammability         Nominal Value         UL 94         V           10.030 in         HB         UL 94         V         P         <	RTI Imp			UL 746
RTI Str	0.06 in	194	°F	
0.06 in 0.12 in         194 °F           221 °F           Electrical         Nominal Value         Unit         Test Method           Surface Resistivity         1.0E+13 ohms cm         IEC 60093           Volume Resistivity         1.0E+13 ohms cm         IEC 60093           Dielectric Constant (1 MHz)         3.80 cms cm         IEC 60250           Dissipation Factor (1 MHz)         5.0E-3 cms	0.12 in	194	°F	
Electrical         Nominal Value         Unit         Test Method           Surface Resistivity         1.0E+13         ohms         IEC 60093           Volume Resistivity         1.0E+13         ohms cm         IEC 60093           Dielectric Constant (1 MHz)         3.80         IEC 60250           Dissipation Factor (1 MHz)         5.0E-3         IEC 60250           Comparative Tracking Index         600         V         IEC 60112           Flame Rating         UL 94           0.030 in         HB         UL 94           0.12 in         HB         HB           0.12 in         HB         HB           Drying Temperature         176 to 230         °F           Drying Time         2.0 to 4.0         hr           Suggested Max Moisture         0.15         %           Processing (Melt) Temp         374 to 446         °F           Mold Temperature         140 to 248         °F           Injection Pressure         508 to 1000         psi	RTI Str			UL 746
Nominal Value	0.06 in	194	°F	
Surface Resistivity         1.0E+13 ohms         IEC 60093           Volume Resistivity         1.0E+13 ohms cm         IEC 60093           Dielectric Constant (1 MHz)         3.80 IEC 60250           Dissipation Factor (1 MHz)         5.0E-3 IEC 60250           Comparative Tracking Index         600 V IEC 60112           Flame Rating         UL 94           0.030 in         HB           0.06 in         HB           0.12 in         HB           Processing Information           njection         Nominal Value Unit           Drying Temperature         176 to 230 °F           Drying Time         2.0 to 4.0 hr           Suggested Max Moisture         0.15 %           Processing (Melt) Temp         374 to 446 °F           Mold Temperature         140 to 248 °F           Injection Pressure         508 to 1020 psi	0.12 in	221	°F	
Volume Resistivity         1.0E+13         ohms cm         IEC 60093           Dielectric Constant (1 MHz)         3.80         IEC 60250           Dissipation Factor (1 MHz)         5.0E-3         IEC 60250           Comparative Tracking Index         600         V         IEC 60112           Flammability         Nominal Value         Unit         Test Method           9.030 in         HB         UL 94           0.030 in         HB         HB         HB           0.12 in         HB         HB         HB           10.12 in         Nominal Value         Unit         Image: Control of the	Electrical	Nominal Value	Unit	Test Method
Dielectric Constant (1 MHz)	Surface Resistivity	1.0E+13	ohms	IEC 60093
Dissipation Factor (1 MHz)   5.0E-3   IEC 60250     Comparative Tracking Index   600   V   IEC 60112     Flammability   Nominal Value   Unit   Test Method     Flame Rating   UL 94     0.030 in	Volume Resistivity	1.0E+13	ohms·cm	IEC 60093
Comparative Tracking Index         600 V         V         IEC 60112           Flammability         Nominal Value         Unit         Test Method           Flame Rating         UL 94           0.030 in         HB         HB           0.06 in         HB         HB           0.12 in         HB         HB           Processing Information           Injection         Nominal Value         Unit           Drying Temperature         176 to 230 °F           Drying Time         2.0 to 4.0 hr           Suggested Max Moisture         0.15 %           Processing (Melt) Temp         374 to 446 °F           Mold Temperature         140 to 248 °F           Injection Pressure         508 to 1020 psi	Dielectric Constant (1 MHz)	3.80		IEC 60250
Flammability         Nominal Value         Unit         Test Method           Flame Rating         UL 94           0.030 in         HB         UL 94           0.06 in         HB         HB           0.12 in         HB         HB           Processing Information           njection         Nominal Value         Unit           Drying Temperature         176 to 230         °F           Drying Time         2.0 to 4.0         hr           Suggested Max Moisture         0.15         %           Processing (Melt) Temp         374 to 446         °F           Mold Temperature         140 to 248         °F           Injection Pressure         508 to 1020         psi	Dissipation Factor (1 MHz)	5.0E-3		IEC 60250
Flame Rating	Comparative Tracking Index	600	V	IEC 60112
0.030 in         HB           0.06 in         HB         HB           Processing Information           Injection         Nominal Value         Unit           Drying Temperature         176 to 230         °F           Drying Time         2.0 to 4.0         hr           Suggested Max Moisture         0.15         %           Processing (Melt) Temp         374 to 446         °F           Mold Temperature         140 to 248         °F           Injection Pressure         508 to 1020         psi	Flammability	Nominal Value	Unit	Test Method
0.06 in         HB           Drylog Temperature         Processing Information           Drylog Temperature         Nominal Value         Unit           Drylog Time         176 to 230         °F           Drylog Time         2.0 to 4.0         hr           Suggested Max Moisture         0.15         %           Processing (Melt) Temp         374 to 446         °F           Mold Temperature         140 to 248         °F           Injection Pressure         508 to 1020         psi	Flame Rating			UL 94
Drocessing Information           Processing Information           njection         Nominal Value         Unit           Drying Temperature         176 to 230         °F           Drying Time         2.0 to 4.0         hr           Suggested Max Moisture         0.15         %           Processing (Melt) Temp         374 to 446         °F           Mold Temperature         140 to 248         °F           Injection Pressure         508 to 1020         psi	0.030 in	НВ		
Processing Information           njection         Nominal Value         Unit           Drying Temperature         176 to 230         °F           Drying Time         2.0 to 4.0         hr           Suggested Max Moisture         0.15         %           Processing (Melt) Temp         374 to 446         °F           Mold Temperature         140 to 248         °F           Injection Pressure         508 to 1020         psi	0.06 in	НВ		
Nominal Value         Unit           Drying Temperature         176 to 230         °F           Drying Time         2.0 to 4.0         hr           Suggested Max Moisture         0.15         %           Processing (Melt) Temp         374 to 446         °F           Mold Temperature         140 to 248         °F           Injection Pressure         508 to 1020         psi	0.12 in	НВ		
Drying Temperature         176 to 230         °F           Drying Time         2.0 to 4.0         hr           Suggested Max Moisture         0.15         %           Processing (Melt) Temp         374 to 446         °F           Mold Temperature         140 to 248         °F           Injection Pressure         508 to 1020         psi		Processing Information		
Drying Time         2.0 to 4.0 hr           Suggested Max Moisture         0.15 %           Processing (Melt) Temp         374 to 446 °F           Mold Temperature         140 to 248 °F           Injection Pressure         508 to 1020 psi	Injection	Nominal Value	Unit	
Suggested Max Moisture         0.15 %           Processing (Melt) Temp         374 to 446 °F           Mold Temperature         140 to 248 °F           Injection Pressure         508 to 1020 psi	Drying Temperature	176 to 230	°F	
Processing (Melt) Temp 374 to 446 °F Mold Temperature 140 to 248 °F Injection Pressure 508 to 1020 psi	Drying Time	2.0 to 4.0	hr	
Mold Temperature 140 to 248 °F Injection Pressure 508 to 1020 psi	Suggested Max Moisture	0.15	%	
Injection Pressure 508 to 1020 psi	Processing (Melt) Temp	374 to 446	°F	
•	Mold Temperature	140 to 248	°F	
Injection Rate Fast	Injection Pressure	508 to 1020	psi	
	Injection Rate	Fast		

#### Notes

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