

BASF Ultraform® S 2320 Aqua AT POM

Product Description: Ultraform® S 2320 Aqua AT is a pigmented black, injection molding POM grade for plastics parts, where the approvals of drink water contact and direct food contact are a mandatory requirement. Typical applications include drink water and food parts.

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	ISO 1183
Water Absorption	0.20 %	0.20 %	Equilibrium, 50% RH; ISO 62
Water Absorption at Saturation	0.90 %	0.90 %	ISO 62
Maximum Moisture Content	0.15	0.15	
Linear Mold Shrinkage, Flow	0.021 cm/cm	0.021 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.021 cm/cm	0.021 in/in	ISO 294-4
Melt Flow	11 g/10 min @Load 2.16 kg, Temperature 190 °C	11 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133
Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	64.0 MPa	9280 psi	ISO 527-2
Elongation at Break	29 %	29 %	Nominal; ISO 527-2
Elongation at Yield	10 %	10 %	ISO 527-2
Tensile Modulus	2.70 GPa	392 ksi	ISO 527-1
Izod Impact, Notched (ISO)	5.46 kJ/m ² @Temperature -30.0 °C	2.60 ft-lb/in ² @Temperature -22.0 °F	ISO 180
	5.46 kJ/m ² @Temperature 22.8 °C	2.60 ft-lb/in ² @Temperature 73.0 °F	ISO 180
Charpy Impact Unnotched	23.1 J/cm ² @Temperature -30.0 °C	110 ft-lb/in ² @Temperature -22.0 °F	ISO 179
	25.2 J/cm ² @Temperature 22.8 °C	120 ft-lb/in ² @Temperature 73.0 °F	ISO 179
Charpy Impact, Notched	0.546 J/cm ² @Temperature -30.0 °C	2.60 ft-lb/in ² @Temperature -22.0 °F	ISO 179
	0.609 J/cm ² @Temperature 22.8 °C	2.90 ft-lb/in ² @Temperature 73.0 °F	ISO 179
Tensile Creep Modulus, 1000 hours	1300 MPa	189000 psi	ISO 899-1

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 60093
Surface Resistance	1.00e+13 ohm	1.00e+13 ohm	IEC 60093
Dielectric Constant	3.8 @Frequency 1e+6 Hz	3.8 @Frequency 1e+6 Hz	IEC 60250
Dissipation Factor	0.0050 @Frequency 1e+6 Hz	0.0050 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	Solution A; IEC 60112

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	110 $\mu\text{m}/\text{m}^{\circ}\text{C}$	61.0 $\mu\text{in}/\text{in}^{\circ}\text{F}$	ISO 11359-2
Melting Point	167 $^{\circ}\text{C}$	333 $^{\circ}\text{F}$	ISO 3146
Deflection Temperature at 1.8 MPa (264 psi)	100 $^{\circ}\text{C}$	212 $^{\circ}\text{F}$	Unannealed; ISO 75-2/A

Processing Properties	Metric	English	Comments
Melt Temperature	190 - 230 $^{\circ}\text{C}$	374 - 446 $^{\circ}\text{F}$	
Mold Temperature	60.0 - 120 $^{\circ}\text{C}$	140 - 248 $^{\circ}\text{F}$	
Drying Temperature	80.0 - 110 $^{\circ}\text{C}$	176 - 230 $^{\circ}\text{F}$	
Dry Time	2.00 - 4.00 hour	2.00 - 4.00 hour	
Injection Pressure	3.50 - 7.03 MPa	508 - 1020 psi	