

BASF Ultraform® W 2320 Aqua AT POM

Product Description: Ultraform® W2320 Aqua AT is a pigmented black easy flowing 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 contact 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	0.80 %	0.80 %	ISO 62
Maximum Moisture Content	0.15	0.15	
Linear Mold Shrinkage, Flow	0.020 cm/cm	0.020 in/in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.021 cm/cm	0.021 in/in	ISO 294-4
Melt Flow	25 g/10 min @Load 2.16 kg, Temperature 190 °C	25 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	65.0 MPa	9430 psi	ISO 527-2
Elongation at Break	24 %	24 %	Nominal; ISO 527-2
Elongation at Yield	8.0 %	8.0 %	ISO 527-2
Tensile Modulus	2.85 GPa	413 ksi	ISO 527-1
Izod Impact, Notched (ISO)	5.04 kJ/m ² @Temperature -30.0 °C	2.40 ft-lb/in ² @Temperature -22.0 °F	ISO 180
	5.04 kJ/m ² @Temperature 22.8 °C	2.40 ft-lb/in ² @Temperature 73.0 °F	ISO 180
Charpy Impact Unnotched	18.9 J/cm ² @Temperature -30.0 °C	90.0 ft-lb/in ² @Temperature -22.0 °F	ISO 179
	18.9 J/cm ² @Temperature 22.8 °C	90.0 ft-lb/in ² @Temperature 73.0 °F	ISO 179
Charpy Impact, Notched	0.399 J/cm ² @Temperature -30.0 °C	1.90 ft-lb/in ² @Temperature -22.0 °F	ISO 179
	0.441 J/cm ² @Temperature 22.8 °C	2.10 ft-lb/in ² @Temperature 73.0 °F	ISO 179

Tensile Creep Modulus, 1000 hours 1350 MPa 196000 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 µm/m-°C	61.0 µin/in-°F	ISO 11359-2
Melting Point	166 °C	331 °F	ISO 3146
Deflection Temperature at 1.8 MPa (264 psi)	100 °C	212 °F	Unannealed; ISO 75-2/A

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