

BASF Ultraform® W2320 003 PRO POM

Description: Is a POM, is a very easy flowing grade for thin-walled components with long flow paths.
Information provided by BASF

Physical Properties	Metric	English	Comments
Density	1.40 g/cc	0.0506 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23°C; 50% RH; ISO 62
Water Absorption at Saturation	0.80 %	0.80 %	ISO 62
Linear Mold Shrinkage, Flow	0.020 cm/cm	0.020 in/in	ISO 2527
Linear Mold Shrinkage, Transverse	0.021 cm/cm	0.021 in/in	ISO 2527
Melt Flow	35 g/10 min @Load 2.16 kg, Temperature 190 °C	35 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	145 MPa @Load 36.5 kg, Time 30.0 sec	21000 psi @Load 80.5 lb, Time 0.00833 hour	ISO 2039-1
Tensile Strength, Yield	65.0 MPa	9430 psi	50 mm/min; ISO 527
Elongation at Break	24 %	24 %	Nominal, 50 mm/min; ISO 527-2
Elongation at Yield	7.5 %	7.5 %	50 mm/min; ISO 527
Modulus of Elasticity	2.80 GPa	406 ksi	ISO 527-2
Izod Impact, Notched (ISO)	5.00 kJ/m ² @Temperature -30.0 °C	2.38 ft-lb/in ² @Temperature -22.0 °F	ISO 180/A
	5.00 kJ/m ² @Temperature 23.0 °C	2.38 ft-lb/in ² @Temperature 73.4 °F	ISO 180/A
Charpy Impact Unnotched	15.0 J/cm ² @Temperature -30.0 °C	71.4 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
	15.0 J/cm ² @Temperature 23.0 °C	71.4 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm ² @Temperature -30.0 °C	1.90 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	0.500 J/cm ² @Temperature 23.0 °C	2.38 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA
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

	3.8 @Frequency 100 Hz	3.8 @Frequency 100 Hz	IEC 60250
Dielectric Strength	40.0 kV/mm	1020 kV/in	IEC 60243-1
Dissipation Factor	0.0010 @Frequency 100 Hz	0.0010 @Frequency 100 Hz	IEC 60250
	0.0050 @Frequency 1e+6 Hz	0.0050 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	Test solution A; IEC 60112
	600 V	600 V	Test solution B; IEC 60112

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	110 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 23.0 - 55.0 $^\circ\text{C}$	61.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 73.4 - 131 $^\circ\text{F}$	DIN 53752
Melting Point	167 $^\circ\text{C}$	333 $^\circ\text{F}$	
Maximum Service Temperature, Air	100 $^\circ\text{C}$	212 $^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	100 $^\circ\text{C}$	212 $^\circ\text{F}$	ISO 75-2
Vicat Softening Point	150 $^\circ\text{C}$	302 $^\circ\text{F}$	ISO 306
Decomposition Temperature	≥ 240 $^\circ\text{C}$	≥ 464 $^\circ\text{F}$	
Ignition Temperature	320 - 340 $^\circ\text{C}$	608 - 644 $^\circ\text{F}$	ASTM D1929

Processing Properties	Metric	English	Comments
Processing Temperature	200 $^\circ\text{C}$	392 $^\circ\text{F}$	Hopper Throat
Zone 1	200 $^\circ\text{C}$	392 $^\circ\text{F}$	Feed zone
Zone 2	200 $^\circ\text{C}$	392 $^\circ\text{F}$	Compression
Zone 3	200 $^\circ\text{C}$	392 $^\circ\text{F}$	Metering-zone
Zone 4	200 $^\circ\text{C}$	392 $^\circ\text{F}$	Nozzle
Melt Temperature	200 $^\circ\text{C}$	392 $^\circ\text{F}$	Optimal
	190 - 230 $^\circ\text{C}$	374 - 446 $^\circ\text{F}$	Injection-molding
Mold Temperature	60.0 - 100 $^\circ\text{C}$	140 - 212 $^\circ\text{F}$	Injection-molding
	90.0 $^\circ\text{C}$	194 $^\circ\text{F}$	Optimal
Drying Temperature	100 $^\circ\text{C}$	212 $^\circ\text{F}$	
Dry Time	3 hour	3 hour	