

BASF Ultraform® S 1320 0021 UNC POM

Ultraform S1320 0021 UNC is an easy flowing, rapidly freezing injection molding POM grade with enhanced stiffness and heat distortion resistance. It is highly stabilized to resist aggressive fuels, including hot diesel fuel.

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	ISO 1183
Water Absorption	0.80 %	0.80 %	ISO 62
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23°C/50% R.H.; ISO 62
Melt Flow	12.9 g/10 min @Load 2.16 kg, Temperature 190 °C	12.9 g/10 min @Load 4.76 lb, Temperature 374 °F	ISO 1133
Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	155 MPa	22500 psi	ISO 2039
Tensile Strength	6.37 MPa @Time 2.59e+6 sec	925 psi @Time 720 hour	Storage in biodiesel DIN 14214 at +140°C
	6.37 MPa @Time 1.04e+7 sec	925 psi @Time 2880 hour	Storage in biodiesel DIN 14214 at +140°C
	6.37 MPa @Time 1.81e+7 sec	925 psi @Time 5040 hour	Storage in biodiesel DIN 14214 at +140°C
Tensile Strength, Yield	66.0 MPa	9570 psi	50mm/min; ISO 527
Elongation at Break	30 %	30 %	ISO 527
Elongation at Yield	9.0 %	9.0 %	ISO 527
Modulus of Elasticity	3.00 GPa	435 ksi	ISO 527
Izod Impact, Notched (ISO)	5.50 kJ/m ²	2.62 ft-lb/in ²	ISO 2039
Charpy Impact Unnotched	17.0 J/cm ²	80.9 ft-lb/in ²	ISO 179

	17.0 J/cm ² @Temperature -30.0 °C	80.9 ft-lb/in ² @Temperature -22.0 °F	ISO 179
Charpy Impact, Notched	0.550 J/cm ²	2.62 ft-lb/in ²	ISO 179
	0.550 J/cm ² @Temperature -30.0 °C	2.62 ft-lb/in ² @Temperature -22.0 °F	ISO 179
Tensile Creep Modulus, 1000 hours	1450 MPa	210000 psi	ISO 899

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	IEC 60093
Surface Resistance	1.00e+15 ohm	1.00e+15 ohm	IEC 60093
Dielectric Constant	3.7 @Frequency 100 Hz	3.7 @Frequency 100 Hz	IEC 60250
	3.7 @Frequency 1e+6 Hz	3.7 @Frequency 1e+6 Hz	IEC 60250
Dielectric Strength	40.0 kV/mm	1020 kV/in	IEC 60243-1
Dissipation Factor	0.0020 @Frequency 100 Hz	0.0020 @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
Melting Point		171 °C	340 °F	DIN 53765
Maximum Service Temperature, Air		100 °C	212 °F	
Deflection Temperature at 1.8 MPa (264 psi)		100 °C	212 °F	ISO 75
Vicat Softening Point		150 °C	302 °F	(50 °C/h / 50N) - B/50; ISO 306
Processing Properties		Metric	English	Comments
Melt Temperature		190 - 230 °C	374 - 446 °F	
Mold Temperature		60.0 - 120 °C	140 - 248 °F	
Descriptive Properties				
Color	Natural			
Commercial Status	North America and Europe			
Impact Modified	No			
Primary Processing Technique	Injection Molding			