Ultraform® S1320 0021 UNC

Acetal (POM) Copolymer

BASF Corporation

Product Description
Ultraform S 1320 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.

General			
Material Status	• Commercial: Active		
Availability	• Europe	• North America	
Features	• Fuel Resistant • Good Flow	• Good Stiffness • High Heat Resistance	• High Stiffness • Oil Resistant
Uses	• Fuel Tanks		
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		
Multi-Point Data	• Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1)	• Shear Modulus vs. Temperature (ISO 11403-2) • Specific Heat vs. Temperature (ISO 11403-2) • Specific Volume vs Temperature (ISO 11403-2)	• Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value	Unit	Test Method
Density	1410	kg/m³	ISO 1183[2]
Melt volume-flow rate (190°C/2.16 kg)	11.0	cm³/10min	ISO 1133[2]
Molding Shrinkage			ISO 294-4
Across Flow	2.1	%	
Flow	2.1	%	
Water Absorption			ISO 62[2]
Saturation	0.80	%	
Equilibrium	0.20	%	

Mechanical	Nominal Value	Unit	Test Method
Tensile modulus	3000	MPa	ISO 527-2[2]
Tensile Stress			
Yield, -40°C	97.0	MPa	ISO 527-2
Yield, 80°C	35.0	MPa	ISO 527-2
Yield	66.0	MPa	ISO 527-2[2]
Tensile Strain (Yield)	9.0	%	ISO 527-2[2]
Nominal strain at break	30	%	ISO 527-2[2]
Tensile Creep Modulus (1000 hr)	1450	MPa	ISO 899-1[2]

Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength			ISO 179/1eA[2]
-30°C	5.50	kJ/m²	
23°C	5.50	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179
-30°C	170	kJ/m²	
23°C	170	kJ/m²	

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa)	100	°C	ISO 75-2 [2]
Melting Temperature (DSC)	171	°C	ISO 3146
CLTE - Flow	0.00011	cm/cm/°C	ISO 11359-2

Electrical	Nominal Value	Unit	Test Method
Surface resistivity	1.0E+15	ohms	IEC 60093 [2]
Volume resistivity	1.0E+10	ohm·m	IEC 60093 [2]
Relative Permittivity			IEC 60250 [2]
100 Hz	3.70		
1 MHz	3.70		
Dissipation Factor			IEC 60250 [2]
100 Hz	20		
1 MHz	50		
Comparative tracking index	600		IEC 60112 [2]
Electric strength	40	kV/mm	IEC 60243-1 [2]

Injection	Nominal Value	Unit
Drying Temperature	80.0 to 110	°C
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.15	%
Processing (Melt) Temp	190 to 230	°C
Mold Temperature	60.0 to 120	°C
Injection Pressure	3.50 to 7.00	MPa
Injection Rate	Fast	

Notes
[1] Typical properties: these are not to be construed as specifications.

[2] Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.