Ultraform® H2320 006 Q600

Acetal (POM) Copolymer

BASF Corporation

Product Description
Ultraform H 2320 006 Q600 is a POM with high molecular weight grade for injection molding. It conforms to FDA requirements of 21 CFR 177.2470.

General			
Material Status	• Commercial: Active		
Availability	• North America		
Additive	• Mold Release		
Features	• Copolymer	• Good Flow	• High Molecular Weight
Uses	• Bearings • Conveyor Parts	• Household Goods • Profiles	• Thick-walled Parts • Valves/Valve Parts
Agency Ratings	• FDA 21 CFR 177.1500 • FDA 21 CFR 177.2440(a) • FDA 21 CFR 177.2440(b) • FDA 21 CFR 177.2440(c)	• FDA 21 CFR 177.2440(d)(2) • FDA 21 CFR 177.2440(e)(2) • FDA 21 CFR 177.2470 • NSF 14	• NSF 61 • USP Class VI
RoHS Compliance	• RoHS Compliant		
Appearance	• Black	• Colors Available	• Natural Color
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	
Multi-Point Data	• 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
Specific Gravity			
--	1.40	g/cm³	ASTM D792
--	1400	kg/m³	ISO 1183[2]
Melt volume-flow rate (190°C/2.16 kg)	2.90	cm³/10min	ISO 1133[2]
Molding Shrinkage			
Flow: 3.18 mm	2.0	%	ASTM D955
Across Flow	2.1	%	ISO 294-4
Flow	2.1	%	ISO 294-4
Water Absorption			
Saturation	0.80	%	ASTM D570 ISO 62[2]
Equilibrium, 50% RH	0.20	%	ASTM D570
Equilibrium	0.20	%	ISO 62[2]

Mechanical	Nominal Value	Unit	Test Method
Tensile modulus	2600	MPa	ISO 527-2[2]
Tensile Strength			
Yield, 23°C	64.0	MPa	ASTM D638
Yield, 80°C	33.0	MPa	ISO 527-2
Yield	64.0	MPa	ISO 527-2[2]
Tensile Elongation			
Yield, 23°C	11	%	ASTM D638
Yield	11	%	ISO 527-2[2]
Nominal strain at break	30	%	ISO 527-2[2]
Tensile Creep Modulus			ISO 899-1[2]
1 hr	1800	MPa	
1000 hr	1300	MPa	
Flexural Modulus			
23°C	2450	MPa	ASTM D790
23°C	2600	MPa	ISO 178

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Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength			ISO 179/1eA [2]
-30°C	5.50	kJ/m²	
23°C	6.00	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179
-30°C	200	kJ/m²	
23°C	260	kJ/m²	
Notched Izod Impact			
-40°C	69.4	J/m	ASTM D256
23°C	80.1	J/m	ASTM D256
-40°C	5.00	kJ/m²	ISO 180
23°C	6.00	kJ/m²	ISO 180

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	154	°C	ASTM D648
1.8 MPa, Unannealed	96.0	°C	ASTM D648
1.8 MPa	95.0	°C	ISO 75-2 [2]
Melting Temperature	166	°C	ASTM D3418 ISO 3146
CLTE - Flow			
--	0.000060	cm/cm/°C	ASTM E831
--	0.00011	cm/cm/°C	ISO 11359-2

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity [3]	1.0E+13	ohms	ASTM D257 IEC 60093 [2]
Volume Resistivity			
1.50 mm	1.0E+13	ohm·cm	ASTM D257
--	1.0E+11	ohm·m	IEC 60093 [2]
Relative Permittivity			IEC 60250 [2]
100 Hz	3.80		
1 MHz	3.80		
Dissipation Factor			IEC 60250 [2]
100 Hz	10		
1 MHz	50		
Comparative tracking index	600		IEC 60112 [2]
Electric strength	40	kV/mm	IEC 60243-1 [2]

Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL (1.50 mm)	HB		UL 94

UL 746	Nominal Value	Unit	Test Method
RTI Str (1.50 mm)	90.0	°C	UL 746
RTI Imp (1.50 mm)	90.0	°C	UL 746
RTI Elec (1.50 mm)	105	°C	UL 746

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.

[3] 1.5 mm

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