Ultradur® B 4450 G5

BASF Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Ultradur B 4450 G5 is a 25% glass reinforced injection molding PBT for parts requiring enhanced fire resistance as well as increased tracking resistance. (Halogen and Antimon free)

Applications
Typical applications include lamp sockets, connectors, coil formers, housings for control units, and power switches.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 25% Filler by Weight		
Features	• Antimony Free • Flame Retardant	• Halogen Free • Tracking Resistant	
Uses	• Connectors	• Housings	• Switches
Agency Ratings	• EC 1907/2006 (REACH)		
RoHS Compliance	• RoHS Compliant		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density	1.61	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/2.16 kg)	20	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
Across Flow	1.5	%	
Flow	0.55	%	
Water Absorption (Saturation, 73°F)	0.40	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Viscosity Number (Reduced Viscosity)	105.0	ml/g	ISO 1628
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus (73°F)	1.38E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	15200	psi	ISO 527-2
Tensile Strain (Break, 73°F)	2.4	%	ISO 527-2
Flexural Modulus (73°F)	1.39E+6	psi	ISO 178
Flexural Stress (73°F)	26100	psi	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (73°F)	2.4	ft·lb/in²	ISO 179
Charpy Unnotched Impact Strength			ISO 179
-22°F	21	ft·lb/in²	
73°F	20	ft·lb/in²	
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature (66 psi, Unannealed)	428	°F	ISO 75-2/B
Heat Deflection Temperature (264 psi, Unannealed)	410	°F	ISO 75-2/A
Melting Temperature (DSC)	433	°F	ISO 3146

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Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+16	ohms	IEC 60093
Volume Resistivity	1.0E+16	ohms·cm	IEC 60093
Dielectric Constant (1 MHz)	3.80		IEC 60250
Dissipation Factor (1 MHz)	0.014		IEC 60250
Comparative Tracking Index	600	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.016 in	V-2		
0.06 in	V-0		

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	212 to 248	°F
Drying Time	4.0	hr
Suggested Max Moisture	0.040	%
Processing (Melt) Temp	482 to 518	°F
Mold Temperature	140 to 212	°F
Injection Pressure	500 to 1500	psi
Injection Rate	Fast	
Back Pressure	< 145	psi

Notes

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