

Ultradur® B 4406

Polybutylene Terephthalate

BASF Corporation

Message:

Ultradur B 4406 is an injection molding PBT grade grade with migration-free flame retardant offering a UL V0 rating.

Applications

Typical applications include relay housings, plug-in connectors, and switch and lamp parts.

General Information			
UL YellowCard	E41871-233793	E36632-531672	
Additive	Flame Retardant		
Features	Flame Retardant		
	Low to No Migration		
Uses	Connectors		
	Housings		
	Switches		
Agency Ratings	EC 1907/2006 (REACH)		
RoHS Compliance	RoHS Compliant		
Forms	Pellets		
Processing Method	Injection Molding		
Multi-Point Data	Viscosity vs. Shear Rate (ISO 11403-2)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.45	g/cm³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	30.0	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.18 mm)	0.15	%	
Water Absorption			
Saturation	0.40	%	ASTM D570
Saturation, 23°C	0.40	%	ISO 62
Equilibrium, 50% RH	0.25	%	ASTM D570
Equilibrium, 23°C, 50% RH	0.25	%	ISO 62
Viscosity Number (Reduced Viscosity)	122.0	ml/g	ISO 1628
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (23°C)	3000	MPa	ISO 527-2
Tensile Strength (Yield, 23°C)	65.0	MPa	ASTM D638, ISO 527-2
Tensile Elongation (Yield, 23°C)	3.9	%	ASTM D638, ISO 527-2
Nominal Tensile Strain at Break (23°C)	3.5	%	ISO 527-2
Tensile Creep Modulus (1 hr)	1800	MPa	ISO 899-1
Impact	Nominal Value	Unit	Test Method

Charpy Notched Impact Strength			ISO 179
-30°C	4.0	kJ/m ²	
23°C	4.0	kJ/m ²	
Charpy Unnotched Impact Strength (23°C)	50	kJ/m ²	ISO 179
Notched Izod Impact			ASTM D256
-40°C	37	J/m	
23°C	37	J/m	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	165	°C	ASTM D648
1.8 MPa, Unannealed	80.0	°C	ASTM D648
1.8 MPa, Unannealed	60.0	°C	ISO 75-2/A
Peak Melting Temperature	223	°C	ASTM D3418, ISO 3146
CLTE - Flow			
--	9.0E-5	cm/cm/°C	ASTM E831
--	5.5E-5	cm/cm/°C	
RTI Elec			UL 746
0.750 mm	125	°C	
1.50 mm	125	°C	
3.00 mm	125	°C	
RTI Imp			UL 746
0.750 mm	130	°C	
1.50 mm	130	°C	
3.00 mm	130	°C	
RTI Str			UL 746
0.750 mm	140	°C	
1.50 mm	140	°C	
3.00 mm	140	°C	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity			
1.50 mm	1.0E+13	ohms	ASTM D257
--	1.0E+13	ohms	IEC 60093
Volume Resistivity			
1.50 mm	> 1.0E+15	ohms · cm	ASTM D257
--	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Constant			IEC 60250
100 Hz	3.30		
1 MHz	3.30		
Dissipation Factor			IEC 60250
100 Hz	0.011		
1 MHz	0.017		
Comparative Tracking Index	250	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.400 mm	V-0		
0.750 mm	V-0		
1.50 mm	V-0		
3.00 mm	V-0		
Injection	Nominal Value	Unit	
Drying Temperature	100 to 120	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.040	%	
Processing (Melt) Temp	250 to 270	°C	
Mold Temperature	40.0 to 80.0	°C	
Injection Pressure	3.50 to 12.5	MPa	
Injection Rate	Fast		
Back Pressure	< 1.00	MPa	

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