



Ultradur® B 4406

BASF Corporation - Polybutylene Terephthalate

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General Information

Product Description

Ultradur B 4406 is an injection molding PBT 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

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Additive	• Flame Retardant
Features	• Flame Retardant • Low to No Migration
Uses	• Connectors • Housings • Switches
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• GM QK 006511 FR Color: Natural • IMDS ID 2673404 Color: Natural
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.45		ASTM D792
Density	1.45	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	30	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (0.125 in)	0.015	in/in	
Water Absorption (Saturation)	0.40	%	ASTM D570
Water Absorption (Saturation, 73°F)	0.40	%	ISO 62
Water Absorption (Equilibrium, 50% RH)	0.25	%	ASTM D570
Water Absorption (Equilibrium, 73°F, 50% RH)	0.25	%	ISO 62
Viscosity Number (Reduced Viscosity)	122.0	ml/g	ISO 1628
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	435000	psi	ISO 527-2
Tensile Strength (Yield, 73°F)	9430	psi	ASTM D638
Tensile Stress (Yield, 73°F)	9430	psi	ISO 527-2
Tensile Elongation (Yield, 73°F)	3.9	%	ASTM D638
Tensile Strain (Yield, 73°F)	3.9	%	ISO 527-2
Nominal Tensile Strain at Break			ISO 527-2
-40°F	3.3	%	
73°F	3.5	%	
Tensile Creep Modulus (1 hr)	261000	psi	ISO 899-1
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
-22°F	1.9	ft·lb/in ²	
73°F	1.9	ft·lb/in ²	

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Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength (73°F)	24	ft-lb/in ²	ISO 179
Notched Izod Impact			ASTM D256
-40°F	0.69	ft-lb/in	
73°F	0.69	ft-lb/in	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	329	°F	ASTM D648
Heat Deflection Temperature (66 psi, Unannealed)	338	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	176	°F	
Heat Deflection Temperature (264 psi, Unannealed)	140	°F	ISO 75-2/A
Peak Melting Temperature	433	°F	ASTM D3418
Melting Temperature (DSC)	433	°F	ISO 3146
CLTE - Flow	5.0E-5	in/in/°F	ASTM E831
CLTE - Flow	3.1E-5	in/in/°F	
RTI Elec			UL 746
0.030 in	257	°F	
0.06 in	257	°F	
0.12 in	257	°F	
RTI Imp			UL 746
0.030 in	266	°F	
0.06 in	266	°F	
0.12 in	266	°F	
RTI Str			UL 746
0.030 in	284	°F	
0.06 in	284	°F	
0.12 in	284	°F	
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity (0.0591 in)	1.0E+13	ohms	ASTM D257
Surface Resistivity	1.0E+13	ohms	IEC 60093
Volume Resistivity (0.0591 in)	> 1.0E+15	ohms·cm	ASTM D257
Volume Resistivity	> 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
0.016 in	V-0		
0.030 in	V-0		
0.06 in	V-0		
0.12 in	V-0		

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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	104 to 176	°F
Injection Pressure	508 to 1810	psi
Injection Rate	Fast	
Back Pressure	< 145	psi

Notes

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