



Ultradur® B 4406 G4

BASF Corporation - Polybutylene Terephthalate

Monday, November 4, 2019

General Information

Product Description

Ultradur B 4406 G4 is an injection molding grade with 20 % glass fibers for parts requiring enhanced fire resistance (eg relay housings, plug-and-socket connectors, switches, lighting components).

Applications

Typical applications include relay housings, plug-and-socket connectors, switches, and lighting components.

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Features	• Flame Retardant
Uses	• Connectors • Lighting Applications • Housings • Switches
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• GM QK 006613 FR Color: Natural • IMDS ID 8825428 Color: Natural
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.55		ASTM D792
Density	1.55	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	11	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (0.125 in)	3.0E-3	in/in	
Water Absorption (Saturation)	0.40	%	ASTM D570
Water Absorption (Saturation, 73°F)	0.40	%	ISO 62
Water Absorption (Equilibrium, 50% RH)	0.20	%	ASTM D570
Water Absorption (Equilibrium, 73°F, 50% RH)	0.20	%	ISO 62
Viscosity Number (Reduced Viscosity)	112.0	ml/g	ISO 1628
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	1.19E+6	psi	ISO 527-2
Tensile Strength (Break, 73°F)	17000	psi	ASTM D638
Tensile Stress (Break, 73°F)	18100	psi	ISO 527-2
Tensile Elongation (Break, 73°F)	2.2	%	ASTM D638
Tensile Strain (Break, 73°F)	2.6	%	ISO 527-2
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (73°F)	4.3	ft·lb/in ²	ISO 179
Charpy Unnotched Impact Strength (73°F)	23	ft·lb/in ²	ISO 179
Notched Izod Impact (73°F)	0.99	ft·lb/in	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	419	°F	ASTM D648

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Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (66 psi, Unannealed)	433	°F	ISO 75-2/B
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	351	°F	
Heat Deflection Temperature (264 psi, Unannealed)	392	°F	ISO 75-2/A
Peak Melting Temperature	433	°F	ASTM D3418
Melting Temperature (DSC)	433	°F	ISO 3146
CLTE - Flow	1.7E-5	in/in/°F	ASTM E831
CLTE - Flow	2.8E-5	in/in/°F	
RTI Elec			UL 746
0.030 in	284	°F	
0.06 in	284	°F	
0.12 in	284	°F	
RTI Imp			UL 746
0.030 in	248	°F	
0.06 in	248	°F	
0.12 in	248	°F	
RTI Str			UL 746
0.030 in	257	°F	
0.06 in	266	°F	
0.12 in	266	°F	
Electrical	Nominal Value	Unit	Test Method
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	3.90		
1 MHz	3.60		
Dissipation Factor			IEC 60250
100 Hz	7.0E-3		
1 MHz	0.017		
Comparative Tracking Index	200	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		
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	508 to 1810	psi	
Injection Rate	Fast		
Back Pressure	< 145	psi	

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Notes

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