BASF Ultradur® B 4406 PBT

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT)

Material Notes:

Description: Is a PBT, flame-retardant injection-molding grades, unreinforced for parts requiring enhanced fire resistance, e.g. plug-and-socket connectors, housings, coil formers and lighting components.Information provided by BASF

Order this product through the following link:
http://www.lookpolymers.com/polymer_BASF-Ultradur-B-4406-PBT.php

Physical Properties	Metric	English	Comments
Density	1.45 g/cc	0.0524 lb/in³	ISO 1183
Water Absorption	0.40 %	0.40 %	Saturation; DIN 53495/1L
Moisture Absorption at Equilibrium	0.25 %	0.25 %	23°C; 50% RH
Viscosity Measurement	123	123	[ml/g]; Viscosity number; ISO 1628
	70 @Temperature 290 °C	70 @Temperature 554 °F	20 mins plasticating
	75 @Temperature 300 °C	75 @Temperature 572 °F	10 mins plasticating
	75 @Temperature 280 °C	75 @Temperature 536 °F	30 mins plasticating
	90 @Temperature 270 °C	90 @Temperature 518 °F	30 mins plasticating
	95 @Temperature 290 °C	95 @Temperature 554 °F	10 mins plasticating
	100 @Temperature 260 °C	100 @Temperature 500 °F	30 mins plasticating
	100 @Temperature 300 °C	100 @Temperature 572 °F	5 mins plasticating
	105 @Temperature 280 °C	105 @Temperature 536 °F	10 mins plasticating
	106 @Temperature 250 °C	106 @Temperature 482 °F	30 mins plasticating
	110	110	

Physical Properties	Metric	English	Comments
	@Temperature 270 °C	@Temperature 518 °F	10 mins plasticating
	115 @Temperature 260 °C	115 @Temperature 500 °F	10 mins plasticating
	115 @Temperature 240 °C	115 @Temperature 464 °F	30 mins plasticating
	117 @Temperature 250 °C	117 @Temperature 482 °F	10 mins plasticating
	120 @Temperature 240 °C	120 @Temperature 464 °F	10 mins plasticating
Linear Mold Shrinkage, Flow	0.015 cm/cm	0.015 in/in	Sheet
Linear Mold Shrinkage, Transverse	0.015 cm/cm	0.015 in/in	Sheet
Melt Flow	43.5 g/10 min @Load 2.16 kg, Temperature 250 °C	43.5 g/10 min @Load 4.76 lb, Temperature 482 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	120 MPa	17400 psi	ISO 2039-1
Tensile Strength, Yield	65.0 MPa	9430 psi	50 mm/min; ISO 527-2
Elongation at Break	5.3 %	5.3 %	50mm/min; ISO 527-2
Elongation at Yield	3.9 %	3.9 %	50 mm/min; ISO 527-2
Modulus of Elasticity	3.00 GPa	435 ksi	ISO 527-2
Charpy Impact Unnotched	5.00 J/cm²	23.8 ft-lb/in²	ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm²	1.90 ft-lb/in²	ISO 179/1eA
Dart Drop, Total Energy	6.00 J	4.43 ft-lb	W₅₀₁ housing; ISO 6603-1
Tensile Creep Modulus, 1000 hours	1300 MPa @Strain <=0.500 %	189000 psi @Strain <=0.500 %	ISO 899-1

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 - 60.0 µm/m-°C @Temperature 23.0 - 80.0 °C	27.8 - 33.3 µin/in-°F @Temperature 73.4 - 176 °F	DIN 53752

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	1.50 J/g-°C	0.359 BTU/lb-°F	IEC 1006
Thermal Conductivity	0.270 W/m-K	1.87 BTU-in/hr-ft²-°F	DIN 52612
Melting Point	220 - 225 °C	428 - 437 °F	DSC; ISO 11357-3
Maximum Service Temperature, Air	110 °C	230 °F	at 50% loss of tensile strength after 20000h; IEC 216-1
	135 °C	275 °F	at 50% loss of tensile strength after 5000h; IEC 216-1
	200 °C	392 °F	
Deflection Temperature at 0.46 MPa (66 psi)	170 °C	338 °F	ISO 75-2
Deflection Temperature at 1.8 MPa (264 psi)	60.0 °C	140 °F	ISO 75-2
Flammability, UL94	V-0 @Thickness 0.800 mm	V-0 @Thickness 0.0315 in	
	V-0 @Thickness 1.60 mm	V-0 @Thickness 0.0630 in	
	V-0 @Diameter 0.400 mm	V-0 @Diameter 0.0157 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	IEC 93
Surface Resistance	1.00e+13 ohm	1.00e+13 ohm	IEC 93
Dielectric Constant	3.3 @Frequency 1.00e+6 Hz	3.3 @Frequency 1.00e+6 Hz	IEC 250
	3.3 @Frequency 100 Hz	3.3 @Frequency 100 Hz	IEC 250
Dielectric Strength	40.0 kV/mm	1020 kV/in	IEC 243/1
Dissipation Factor	0.011 @Frequency 100 Hz	0.011 @Frequency 100 Hz	IEC 250
	0.017 @Frequency 1.00e+6 Hz	0.017 @Frequency 1.00e+6 Hz	IEC 250
Comparative Tracking Index	150 V	150 V	Test solution B; IEC 112

Electrical Properties	Metric	English	Comments
	250 V	250 V	Test solution A; IEC 112

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 °C	176 °F	Hopper Throat
Zone 1	240 °C	464 °F	Feeding zone
Zone 2	245 °C	473 °F	Compression
Zone 3	250 °C	482 °F	Metering-zone
Zone 4	250 °C	482 °F	Nozzle
Melt Temperature	250 °C	482 °F	Optimal
	260 °C	500 °F	for shrinkage test
	245 - 275 °C	473 - 527 °F	Injection-molding
Mold Temperature	40.0 - 70.0 °C	104 - 158 °F	
	60.0 °C	140 °F	for shrinkage test, Optimal
Drying Temperature	80.0 - 120 °C	176 - 248 °F	
Dry Time	4 hour	4 hour	

Descriptive Properties	Value	Comments
Color	Natural, Colored, Black and Special Colors	
Commercial Status	Europe	
Peripheral screw speed	<0.25 m/s	
Primary Processing Technique	Injection Molding	

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