

BASF Ultradur® B 4560 PBT

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

Material Notes:

Description: Medium viscosity injection molding grade for industrial parts in the automotive field, for example for head lamp bezel. Suitable for direct metalizing. Information provided by BASF

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultradur-B-4560-PBT.php

Physical Properties	Metric	English	Comments
Bulk Density	0.600 - 0.900 g/cc	0.0217 - 0.0325 lb/in ³	
Density	1.30 g/cc	0.0470 lb/in ³	ISO 1183
Water Absorption	0.50 %	0.50 %	ISO 62
Moisture Absorption at Equilibrium	0.25 %	0.25 %	ISO 62
Viscosity Measurement	112	112	[cm ³ /g]; ISO 307
	70	70	20 mins plasticating
	@Temperature 290 °C	@Temperature 554 °F	
	75	75	30 mins plasticating
	@Temperature 280 °C	@Temperature 536 °F	
	75	75	10 mins plasticating
	@Temperature 300 °C	@Temperature 572 °F	
	90	90	30 mins plasticating
	@Temperature 270 °C	@Temperature 518 °F	
	95	95	10 mins plasticating
	@Temperature 290 °C	@Temperature 554 °F	
	100	100	30 mins plasticating
	@Temperature 260 °C	@Temperature 500 °F	
	100	100	5 mins plasticating
	@Temperature 300 °C	@Temperature 572 °F	
	105	105	10 mins plasticating
	@Temperature 280 °C	@Temperature 536 °F	
	106	106	30 mins plasticating
	@Temperature 250 °C	@Temperature 482 °F	

Physical Properties	Metric	English	Comments
	@Temperature 270 °C	@Temperature 518 °F	10 mins plasticating
	115	115	10 mins plasticating
	@Temperature 260 °C	@Temperature 500 °F	
	115	115	30 mins plasticating
	@Temperature 240 °C	@Temperature 464 °F	
	117	117	10 mins plasticating
	@Temperature 250 °C	@Temperature 482 °F	
	120	120	10 mins plasticating
	@Temperature 240 °C	@Temperature 464 °F	
Linear Mold Shrinkage, Flow	0.013 cm/cm	0.013 in/in	ISO 2577
	0.015 cm/cm	0.015 in/in	plate with film gate 150x150x3mm ³
Linear Mold Shrinkage, Transverse	0.0164 cm/cm	0.0164 in/in	ISO 2577
	0.017 cm/cm	0.017 in/in	plate with film gate 150x150x3mm ³
Melt Flow	42.9 g/10 min	42.9 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 250 °C	@Load 4.76 lb, Temperature 482 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ISO 527-1/-2
Elongation at Yield	8.0 %	8.0 %	50 mm/min; ISO 527-1/-2
	35 %	35 %	Nominal Strain, 50 mm/min; ISO 527-1/-2
Tensile Modulus	2.60 GPa	377 ksi	ISO 527-1/-2
Flexural Strength	90.0 MPa	13100 psi	ISO 178
Charpy Impact Unnotched	0.850 J/cm ²	4.04 ft-lb/in ²	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	14.0 J/cm ²	66.6 ft-lb/in ²	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.380 J/cm ²	1.81 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	130 - 160 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 23.0 - 80.0 $^{\circ}\text{C}$	72.2 - 88.9 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 73.4 - 176 $^{\circ}\text{F}$	ISO 11359-1/-2
Thermal Conductivity	0.270 W/m-K	1.87 BTU-in/hr-ft ² - $^{\circ}\text{F}$	DIN 52612-1
Melting Point	223 $^{\circ}\text{C}$	433 $^{\circ}\text{F}$	ISO 11357-1/-2
Maximum Service Temperature, Air	160 $^{\circ}\text{C}$	320 $^{\circ}\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	135 $^{\circ}\text{C}$	275 $^{\circ}\text{F}$	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	60.0 $^{\circ}\text{C}$	140 $^{\circ}\text{F}$	ISO 75-1/-2
Decomposition Temperature	≥ 290 $^{\circ}\text{C}$	≥ 554 $^{\circ}\text{F}$	
Flammability, UL94	HB @Thickness 1.60 mm	HB @Thickness 0.0630 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	IEC 60093
Dielectric Constant	3.3 @Frequency 1.00e+6 Hz	3.3 @Frequency 1.00e+6 Hz	IEC 60250
	3.4 @Frequency 100 Hz	3.4 @Frequency 100 Hz	IEC 60250
Dissipation Factor	0.0020 @Frequency 100 Hz	0.0020 @Frequency 100 Hz	IEC 60250
	0.020 @Frequency 1.00e+6 Hz	0.020 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	550 V	550 V	Test Solution A; IEC 60112

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 $^{\circ}\text{C}$	176 $^{\circ}\text{F}$	Hopper Throat
Zone 1	250 $^{\circ}\text{C}$	482 $^{\circ}\text{F}$	Feeding zone
Zone 2	255 $^{\circ}\text{C}$	491 $^{\circ}\text{F}$	Compression

Processing Properties	Metric	English	Comments
Zone 4	260 °C	500 °F	Nozzle
Melt Temperature	230 - 275 °C	446 - 527 °F	Injection molding/Extrusion
	260 °C	500 °F	Optimal
Mold Temperature	40.0 - 70.0 °C	104 - 158 °F	Injection molding
	60.0 °C	140 °F	Optimal
Drying Temperature	80.0 - 120 °C	176 - 248 °F	
Dry Time	4 hour	4 hour	

Descriptive Properties	Value	Comments
Commercial Status	Europe	
Ignition Temperature	350°C	ASTM D1929
Peripheral screw speed	< 0.25 m/s	

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