

## BASF Ultradur® B 4300 K4 20% Glass Bead Filled PBT

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

### Material Notes:

Description: Is a PBT + ASA, Injection-molding grades containing 20% of glass beads for industrial parts with low warpage. Applications: Precision parts for optical instruments, fuel tank sensor units, chassis, housings and also for gas meter housings Information provided by BASF

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_BASF-Ultradur-B-4300-K4-20-Glass-Bead-Filled-PBT.php](http://www.lookpolymers.com/polymer_BASF-Ultradur-B-4300-K4-20-Glass-Bead-Filled-PBT.php)

Physical Properties	Metric	English	Comments
Density	1.45 g/cc	0.0524 lb/in <sup>3</sup>	ISO 1183
Water Absorption	0.40 %	0.40 %	Saturation; DIN 53495/1L
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23°C; 50% RH
Viscosity Measurement	115	115	[ml/g]; Viscosity number; ISO 1628
	70	70	20 mins plasticating
	@Temperature 290 °C	@Temperature 554 °F	
	75	75	10 mins plasticating
	@Temperature 300 °C	@Temperature 572 °F	
	75	75	30 mins plasticating
	@Temperature 280 °C	@Temperature 536 °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	0.017 cm/cm	0.017 in/in	Sheet
Linear Mold Shrinkage, Transverse	0.018 cm/cm	0.018 in/in	Sheet
Melt Flow	24.65 g/10 min	24.65 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 250 °C	@Load 4.76 lb, Temperature 482 °F	

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	150 MPa	21800 psi	ISO 2039-1
Tensile Strength, Yield	50.0 MPa	7250 psi	50 mm/min; ISO 527-2
Elongation at Break	5.0 %	5.0 %	50mm/min; ISO 527-2
Elongation at Yield	2.8 %	2.8 %	50 mm/min; ISO 527-2
Modulus of Elasticity	3.50 GPa	508 ksi	ISO 527-2
Flexural Strength	100 MPa	14500 psi	ISO 178
Charpy Impact Unnotched	2.60 J/cm <sup>2</sup>	12.4 ft-lb/in <sup>2</sup>	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	3.50 J/cm <sup>2</sup>	16.7 ft-lb/in <sup>2</sup>	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.400 J/cm <sup>2</sup>	1.90 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Dart Drop, Total Energy	<= 5.00 J	<= 3.69 ft-lb	W<sub>501</sub> housing; ISO 6603-1
	1300 MPa	189000 psi	

Tensile Creep Modulus, 1000 hours Mechanical Properties	Metric @Strain <=0.500 %	English @Strain <=0.500 %	ISO 899-1 Comments
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Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	80.0 - 90.0 $\mu\text{m}/\text{m}\cdot\text{C}$ @Temperature 23.0 - 80.0 $^{\circ}\text{C}$	44.4 - 50.0 $\mu\text{in}/\text{in}\cdot\text{F}$ @Temperature 73.4 - 176 $^{\circ}\text{F}$	ISO 11359-1/-2
Specific Heat Capacity	1.60 J/g- $^{\circ}\text{C}$	0.382 BTU/lb- $^{\circ}\text{F}$	IEC 1006
Thermal Conductivity	0.270 W/m-K	1.87 BTU-in/hr-ft $^2$ - $^{\circ}\text{F}$	DIN 52612
Melting Point	220 - 225 $^{\circ}\text{C}$	428 - 437 $^{\circ}\text{F}$	DSC; ISO 11357-3
Maximum Service Temperature, Air	120 $^{\circ}\text{C}$	248 $^{\circ}\text{F}$	at 50% loss of tensile strength after 20000h; IEC 216-1
	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	at 50% loss of tensile strength after 5000h; IEC 216-1
	200 $^{\circ}\text{C}$	392 $^{\circ}\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	170 $^{\circ}\text{C}$	338 $^{\circ}\text{F}$	ISO 75-2
Deflection Temperature at 1.8 MPa (264 psi)	70.0 $^{\circ}\text{C}$	158 $^{\circ}\text{F}$	ISO 75-2
Decomposition Temperature	>= 290 $^{\circ}\text{C}$	>= 554 $^{\circ}\text{F}$	
Flammability, UL94	HB @Thickness 1.60 mm	HB @Thickness 0.0630 in	
	HB @Thickness 0.800 mm	HB @Thickness 0.0315 in	
Flame Spread	<= 100 mm/min	<= 3.94 in/min	DIN 75200
Glow Wire Test	<= 750 $^{\circ}\text{C}$ @Thickness 3.00 mm	<= 1380 $^{\circ}\text{F}$ @Thickness 0.118 in	IEC 695

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	3.7 @Frequency 1.00e+6 Hz	3.7 @Frequency 1.00e+6 Hz	IEC 250
	4.0	4.0	

Electrical Properties	Metric	English	IEC 250 Comments
Dielectric Strength	100 kV/mm	2540 kV/in	IEC 243/1
Dissipation Factor	0.012	0.012	IEC 250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.019	0.019	IEC 250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	125 V	125 V	Test solution B; IEC 112
	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
Melt Temperature	250 °C	482 °F	Optimal
	260 °C	500 °F	for shrinkage test
	250 - 275 °C	482 - 527 °F	Injection-molding
Mold Temperature	60.0 °C	140 °F	for shrinkage test, Optimal
	40.0 - 80.0 °C	104 - 176 °F	
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	
Ignition Temperature	350°C	ASTM D1929
Peripheral screw speed	< 0.25 m/s	
Primary Processing Technique	Injection Molding	

Descriptive Properties

Value

Comments

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