

BASF Ultramid® B3K PA6 (Dry)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Unreinforced

Material Notes:

Ultramid B 3K is an easy flowing, stabilized for fast processing, grade of nylon 6.

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultramid-B3K-PA6-Dry.php

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in ³	ISO 1183
Water Absorption	9.0 - 10 %	9.0 - 10 %	ISO 62
Moisture Absorption at Equilibrium	2.6 - 3.4 %	2.6 - 3.4 %	23°C/50% R.H.; ISO 62
Viscosity Test	150 cm ³ /g	150 cm ³ /g	Viscosity number; ISO 307
Linear Mold Shrinkage	0.0065 cm/cm	0.0065 in/in	
Melt Flow	181 g/10 min @Load 5.00 kg, Temperature 275 °C	181 g/10 min @Load 11.0 lb, Temperature 527 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	85.0 MPa	12300 psi	50mm/min; ISO 527
Elongation at Yield	4.5 %	4.5 %	50mm/min; ISO 527
Modulus of Elasticity	3.00 GPa	435 ksi	ISO 527
Flexural Modulus	2.60 GPa	377 ksi	ISO 178
	2.80 GPa	406 ksi	ISO 178
Izod Impact, Notched (ISO)	5.50 kJ/m ²	2.62 ft-lb/in ²	ISO 180/A
	5.00 kJ/m ² @Temperature -30.0 °C	2.38 ft-lb/in ² @Temperature -22.0 °F	ISO 180/A
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	10.0 J/cm ² @Temperature -30.0 °C	47.6 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.550 J/cm ²	2.62 ft-lb/in ²	ISO 179/1eA
	0.400 J/cm ² @Temperature -30.0 °C	1.90 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA

Mechanical Properties	Metric	English	Comments
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 - 100 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$ @Temperature 23.0 - 80.0 $^{\circ}\text{C}$	38.9 - 55.6 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$ @Temperature 73.4 - 176 $^{\circ}\text{F}$	ISO 11359-1/-2
Specific Heat Capacity	1.70 J/g- $^{\circ}\text{C}$	0.406 BTU/lb- $^{\circ}\text{F}$	
Thermal Conductivity	0.330 W/m-K	2.29 BTU-in/hr-ft 2 - $^{\circ}\text{F}$	DIN 52612
Melting Point	220 $^{\circ}\text{C}$	428 $^{\circ}\text{F}$	DIN 53765
Maximum Service Temperature, Air	100 $^{\circ}\text{C}$	212 $^{\circ}\text{F}$	for 50% loss of tensile strength after 20,000 hr
	112 $^{\circ}\text{C}$	234 $^{\circ}\text{F}$	for 50% loss of tensile strength after 5,000 hr
	180 $^{\circ}\text{C}$	356 $^{\circ}\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	180 $^{\circ}\text{C}$	356 $^{\circ}\text{F}$	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	65.0 $^{\circ}\text{C}$	149 $^{\circ}\text{F}$	ISO 75
Flammability, UL94	HB @Thickness 1.60 mm	HB @Thickness 0.0630 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 60093
Dielectric Constant	3.5 @Frequency 1.00e+6 Hz	3.5 @Frequency 1.00e+6 Hz	IEC 60250
Dissipation Factor	0.023 @Frequency 1.00e+6 Hz	0.023 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	250 - 270 $^{\circ}\text{C}$	482 - 518 $^{\circ}\text{F}$	Injection-molding/Extrusion
Mold Temperature	40.0 - 80.0 $^{\circ}\text{C}$	104 - 176 $^{\circ}\text{F}$	Injection-molding

Descriptive Properties	Value	Comments
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Color Descriptive Properties	Natural Value	Comments
Commercial Status	North America and Europe	
Form	Pellets	
Impact Modified	No	
Primary Processing Technique	Injection Molding	
Processing	Injection Molding	
Special characteristic	Heat stabilized or stable to heat	
	Release agent	
	U.V. stabilized or stable to weather	

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