BASF Ultramid® KR 4350 BK 00464 PA6/6T (Dry)

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

Material Notes:

Description: For injection-molding and extrusion, exhibiting high toughness, strength and stiffness, low water absorption, high melting point (295 °C [563°F]). The mechanical properties remain constant after moisture absorption up to a temperature of 60°C [140°F].Information provided by BASF

Order this product through the following link:
http://www.lookpolymers.com/polymer_BASF-Ultramid-KR-4350-BK-00464-PA66T-Dry.php

Physical Properties	Metric	English	Comments
Bulk Density	0.450 - 0.800 g/cc	0.0163 - 0.0289 lb/in³	
Density	1.16 g/cc	0.0419 lb/in³	ISO 1183
Water Absorption	6.5 - 7.5 %	6.5 - 7.5 %	Saturation; ISO 62
Moisture Absorption at Equilibrium	1.6 - 2.0 %	1.6 - 2.0 %	23°C; 50% RH; ISO 62
Viscosity Measurement	130	130	ISO 307
Linear Mold Shrinkage	0.0065 cm/cm	0.0065 in/in	restricted
Linear Mold Shrinkage, Flow	0.0090 cm/cm	0.0090 in/in	ISO 2577
Linear Mold Shrinkage, Transverse	0.014 cm/cm	0.014 in/in	ISO 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	100 MPa	14500 psi	50 mm/min; ISO 527-1/-2
Elongation at Break	<= 11.5 %	<= 11.5 %	Nominal, 50mm/min; ISO 527-1/-2
Elongation at Yield	8.0 %	8.0 %	50 mm/min; ISO 527-1/-2
Modulus of Elasticity	3.20 GPa	464 ksi	ISO 527-1/-2
Flexural Modulus	2.90 GPa	421 ksi	ISO 178
Izod Impact, Notched (ISO)	7.00 kJ/m² @Temperature 23.0 °C	3.33 ft-lb/in² @Temperature 73.4 °F	ISO 180/A
Charpy Impact Unnotched	10.5 J/cm² @Temperature -30.0 °C	50.0 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eU
	12.0 J/cm² @Temperature 23.0 °C	57.1 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eU

Mechanical Properties	Metric	English	Comments
	1.00 J/cm²	4.76 ft-lb/in²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.30 J/cm² @Temperature 23.0 °C	6.19 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	60.0 - 80.0 µm/m-°C @Temperature 23.0 - 80.0 °C	33.3 - 44.4 µin/in-°F @Temperature 73.4 - 176 °F	DIN 11359-1/-2
Thermal Conductivity	0.230 W/m-K	1.60 BTU-in/hr-ft²-°F	DIN 52612
Melting Point	295 °C	563 °F	DIN 53765
Maximum Service Temperature, Air	110 °C	230 °F	for 50% loss of tensile strength after 20000hr
	130 °C	266 °F	for 50% loss of tensile strength after 5000hr
	250 °C	482 °F	
Deflection Temperature at 1.8 MPa (264 psi)	95.0 °C	203 °F	ISO 75-1/-2
Decomposition Temperature	>= 350 °C	>= 662 °F	
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	4.0 @Frequency 1.00 Hz	4.0 @Frequency 1.00 Hz	IEC 60250
Dissipation Factor	0.030 @Frequency 1.00e+6 Hz	0.030 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	Test solution A; IEC 60112

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 °C	176 °F	Hopper Throat
Zone 1	300 °C	572 °F	Feed Zone

Processing Properties	Metric	English	Comments
Zone 2	310 °C	590 °F	Compression
Zone 3	315 °C	599 °F	Metering-zone
Zone 4	315 °C	599 °F	Nozzle
Melt Temperature	315 °C	599 °F	Optimal
	310 - 330 °C	590 - 626 °F	Injection-molding/Extrusion
Mold Temperature	70.0 - 100 °C	158 - 212 °F	Injection-molding
	90.0 °C	194 °F	Optimal
Drying Temperature	110 °C	230 °F	
Dry Time	8 hour	8 hour	
Moisture Content	<= 0.030 %	<= 0.030 %	Optimal
	<= 0.15 %	<= 0.15 %	

Descriptive Properties	Value	Comments
Color	BK 00464	
Commercial Status	Europe	
Ignition Temperature	>470°C	ASTM D1929
Peripheral screw speed	< 0.3 m/s	

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