

BASF Ultramid® KR 4350 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-PA66T-Dry.php

Physical Properties	Metric	English	Comments
Density	1.16 g/cc	0.0419 lb/in ³	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	0.0060 cm/cm	0.0060 in/in	restricted

Mechanical Properties	Metric	English	Comments
Tensile Strength	10.0 MPa	1450 psi	50mm/min
	@Strain 2.00 %, Temperature 100 °C	@Strain 2.00 %, Temperature 212 °F	
	20.0 MPa	2900 psi	50mm/min
	@Strain 5.00 %, Temperature 100 °C	@Strain 5.00 %, Temperature 212 °F	
	25.0 MPa	3630 psi	50mm/min
	@Strain 8.00 %, Temperature 100 °C	@Strain 8.00 %, Temperature 212 °F	
	40.0 MPa	5800 psi	50mm/min
	@Strain 2.00 %, Temperature 80.0 °C	@Strain 2.00 %, Temperature 176 °F	
	50.0 MPa	7250 psi	50mm/min
	@Strain 5.00 %, Temperature 80.0 °C	@Strain 5.00 %, Temperature 176 °F	
	50.0 MPa	7250 psi	50mm/min
	@Strain 8.00 %, Temperature 80.0 °C	@Strain 8.00 %, Temperature 176 °F	
	60.0 MPa	8700 psi	

Mechanical Properties	Metric	English	Comments
	@Strain 2.00 %, Temperature 60.0 °C	@Strain 2.00 %, Temperature 140 °F	
	73.0 MPa	10600 psi	
	@Strain 8.00 %, Temperature 60.0 °C	@Strain 8.00 %, Temperature 140 °F	50mm/min
	75.0 MPa	10900 psi	
	@Strain 2.00 %, Temperature 23.0 °C	@Strain 2.00 %, Temperature 73.4 °F	50mm/min
	75.0 MPa	10900 psi	
	@Strain 5.00 %, Temperature 60.0 °C	@Strain 5.00 %, Temperature 140 °F	50mm/min
	80.0 MPa	11600 psi	
	@Strain 8.00 %, Temperature 23.0 °C	@Strain 8.00 %, Temperature 73.4 °F	50mm/min
	110 MPa	16000 psi	
	@Strain 5.00 %, Temperature 23.0 °C	@Strain 5.00 %, Temperature 73.4 °F	50mm/min
Tensile Strength, Yield	100 MPa	14500 psi	50 mm/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
	1.75 GPa	254 ksi	
	@Temperature 100 °C	@Temperature 212 °F	ISO 527
	3.00 GPa	435 ksi	
	@Temperature 80.0 °C	@Temperature 176 °F	ISO 527
	3.50 GPa	508 ksi	
	@Temperature 60.0 °C	@Temperature 140 °F	ISO 527
	3.75 GPa	544 ksi	
	@Temperature 40.0 °C	@Temperature 104 °F	ISO 527
Flexural Modulus	2.90 GPa	421 ksi	ISO 178
Izod Impact, Notched (ISO)	7.00 kJ/m ²	3.33 ft-lb/in ²	
	@Temperature 23.0 °C	@Temperature 73.4 °F	ISO 180/A
Charpy Impact Unnotched	10.5 J/cm ²	50.0 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eU

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	12.0 J/cm ² @Temperature 23.0 °C 1.00 J/cm ²	57.1 ft-lb/in ² @Temperature 73.4 °F 4.76 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.30 J/cm ² @Temperature 23.0 °C	6.19 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	60.0 - 80.0 µm/m-°C	33.3 - 44.4 µin/in-°F	DIN 11359-1/-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Specific Heat Capacity	1.50 J/g-°C	0.359 BTU/lb-°F	
Thermal Conductivity	0.230 W/m-K	1.60 BTU-in/hr-ft ² -°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
Flammability, UL94	HB	HB	
	@Thickness 1.60 mm	@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	4.0	IEC 60250
	@Frequency 1.00 Hz	@Frequency 1.00 Hz	
Dissipation Factor	0.030	0.030	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	600 V	600 V	Test solution A; IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	310 - 330 °C	590 - 626 °F	Injection-molding/Extrusion

Processing Properties	Metric	English	Comments
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Descriptive Properties	Value	Comments
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Commercial Status	Europe	
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