

BASF Ultramid® KR 4355 G5 25% Glass Filled PA6/6T (Dry)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, 30% Glass Fiber Filled

Material Notes:

Description: 25% glass-fiber reinforced product for injection-molding; 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], for instance, for brush collars (electric motors). Information provided by BASF

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultramid-KR-4355-G5-25-Glass-Filled-PA66T-Dry.php

Physical Properties	Metric	English	Comments
Bulk Density	0.500 - 0.800 g/cc	0.0181 - 0.0289 lb/in³	
Density	1.35 g/cc	0.0488 lb/in³	ISO 1183
Water Absorption	5.0 - 6.0 %	5.0 - 6.0 %	Saturation; ISO 62
Moisture Absorption at Equilibrium	>= 1.3 %	>= 1.3 %	50% RH; ISO 62
	1.1 - 1.5 %	1.1 - 1.5 %	23°C; 50% RH; ISO 62
	>= 5.5 %	>= 5.5 %	Saturation; ISO 62
Viscosity Measurement	130	130	ISO 307
Linear Mold Shrinkage	0.0039 cm/cm	0.0039 in/in	restricted
Linear Mold Shrinkage, Flow	0.0045 cm/cm	0.0045 in/in	ISO 2577
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	ISO 2577

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	111 MPa	16100 psi	ISO 527
	@Temperature 80.0 °C	@Temperature 176 °F	
	185 MPa	26800 psi	50 mm/min; ISO 527-1/-2
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	214 MPa	31000 psi	ISO 527
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Elongation at Yield	3.0 %	3.0 %	50 mm/min; ISO 527-1/-2
Modulus of Elasticity	9.00 GPa	1310 ksi	ISO 527-1/-2
Flexural Modulus	7.30 GPa	1060 ksi	ISO 178

Mechanical Properties (ISO)	8.50 kJ/m ² Metric	4.04 ft-lb/in ² English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	6.00 J/cm ²	28.6 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.00 J/cm ²	38.1 ft-lb/in ²	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.850 J/cm ²	4.04 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.10 J/cm ²	5.23 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 - 60.0 µm/m-°C	27.8 - 33.3 µin/in-°F	DIN 11359-1/-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
CTE, linear, Transverse to Flow	25.0 µm/m-°C	13.9 µin/in-°F	DIN 11359-1/-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Specific Heat Capacity	1.40 J/g-°C	0.335 BTU/lb-°F	
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft ² -°F	DIN 52612
Melting Point	295 °C	563 °F	DIN 53765
Maximum Service Temperature, Air	135 °C	275 °F	for 50% loss of tensile strength after 20000hr
	160 °C	320 °F	for 50% loss of tensile strength after 5000hr
	270 °C	518 °F	
Deflection Temperature at 1.8 MPa (264 psi)	245 °C	473 °F	ISO 75-1/-2
Decomposition Temperature	>= 350 °C	>= 662 °F	
UL RTI, Electrical	140 °C	284 °F	746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
UL RTI, Mechanical with Impact	115 °C	239 °F	746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	140 °C	284 °F	

UL RTI Mechanical without Impact Thermal Properties	Metric @ Thickness 1.50 mm	English @ Thickness 0.0591 in	746B Comments
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	4.3	4.3	IEC 60250
	@Frequency 1.00 Hz	@Frequency 1.00 Hz	
Dielectric Strength	33.0 kV/mm	838 kV/in	IEC 60243-1
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
Zone 1	300 °C	572 °F	Feed Zone
Zone 2	310 °C	590 °F	Compression
Zone 3	320 °C	608 °F	Metering-zone
Zone 4	320 °C	608 °F	Nozzle
Melt Temperature	310 - 330 °C	590 - 626 °F	Injection-molding/Extrusion
	320 °C	608 °F	Optimal
Mold Temperature	80.0 - 120 °C	176 - 248 °F	Injection-molding
	100 °C	212 °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
Commercial Status	Europe and North America	
Ignition Temperature	>470°C	ASTM D1929

Descriptive Properties	Value	Comments
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