

BASF Ultramid® A3EG10 50% Glass Filled PA66 (Dry)

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 50% Glass Fiber Filled

Material Notes:

Description: 50% glass-fiber reinforced injection-molding grade for technical articles of very high stiffness as well as for electric insulating parts. Information provided by BASF

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultramid-A3EG10-50-Glass-Filled-PA66-Dry.php

Physical Properties	Metric	English	Comments
Bulk Density	0.500 - 0.800 g/cc	0.0181 - 0.0289 lb/in³	
Density	1.56 g/cc	0.0564 lb/in³	ISO 1183
Water Absorption	3.7 - 4.3 %	3.7 - 4.3 %	Saturation; ISO 62
Moisture Absorption at Equilibrium	1.0 - 1.4 %	1.0 - 1.4 %	23°C; 50% RH; ISO 62
Viscosity Measurement	130	130	ISO 307
Linear Mold Shrinkage	0.0045 cm/cm	0.0045 in/in	restricted
Linear Mold Shrinkage, Flow	0.0033 cm/cm	0.0033 in/in	ISO 2577
	0.0045 cm/cm	0.0045 in/in	TM=300°C, TW=80°C
Linear Mold Shrinkage, Transverse	0.0082 cm/cm	0.0082 in/in	ISO 2577
Melt Flow	31.2 g/10 min @Load 5.00 kg, Temperature 275 °C	31.2 g/10 min @Load 11.0 lb, Temperature 527 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	240 MPa	34800 psi	50 mm/min; ISO 527-1/-2
Elongation at Yield	2.5 %	2.5 %	50 mm/min; ISO 527-1/-2
Modulus of Elasticity	16.8 GPa	2440 ksi	ISO 527-1/-2
Flexural Strength	360 MPa	52200 psi	at max force; ISO 178
Flexural Modulus	15.0 GPa	2180 ksi	ISO 178
Izod Impact, Notched (ISO)	13.0 kJ/m² @Temperature 23.0 °C	6.19 ft-lb/in² @Temperature 73.4 °F	ISO 180/A
Charpy Impact Unnotched	9.00 J/cm² @Temperature -30.0 °C	42.8 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eU

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	1.30 J/cm ²	6.19 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.80 J/cm ²	8.57 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	5.00 - 20.0 µm/m-°C	2.78 - 11.1 µin/in-°F	DIN 11359-1/-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
CTE, linear, Transverse 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	
Specific Heat Capacity	1.30 J/g-°C	0.311 BTU/lb-°F	
Thermal Conductivity	0.370 W/m-K	2.57 BTU-in/hr-ft ² -°F	DIN 52612
Melting Point	260 °C	500 °F	DIN 53765
Maximum Service Temperature, Air	135 °C	275 °F	for 50% loss of tensile strength after 20000hr
	165 °C	329 °F	for 50% loss of tensile strength after 5000hr
	240 °C	464 °F	
Deflection Temperature at 0.46 MPa (66 psi)	250 °C	482 °F	ISO 75-1/-2
Deflection Temperature at 1.8 MPa (264 psi)	250 °C	482 °F	ISO 75-1/-2
Decomposition Temperature	>= 310 °C	>= 590 °F	
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	3.8	3.8	IEC 60250
	@Frequency 1.00 Hz	@Frequency 1.00 Hz	

Electrical Properties <i>Dissipation Factor</i>	0.015 Metric	0.015 English	Comments <i>IEC 60250</i>
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	550 V	550 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
Zone 2	300 °C	572 °F	Compression
Zone 3	300 °C	572 °F	Metering-zone
Zone 4	300 °C	572 °F	Nozzle
Melt Temperature	290 - 310 °C	554 - 590 °F	Injection-molding/Extrusion
	300 °C	572 °F	Optimal
Mold Temperature	80.0 °C	176 °F	Optimal
	80.0 - 90.0 °C	176 - 194 °F	Injection-molding
Drying Temperature	80.0 °C	176 °F	
Dry Time	4 hour	4 hour	
Moisture Content	0.030 - 0.060 %	0.030 - 0.060 %	Optimal
	<= 0.15 %	<= 0.15 %	

Descriptive Properties	Value	Comments
Commercial Status	Europe	
Ignition Temperature	>400°C	ASTM D129
Peripheral screw speed	< 0.3 m/s	

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