

BASF Ultramid® A3WG3

Description: 15% Glass-fiber reinforced and heat aging resistant injection-molding grade for machine elements and housings of medium stiffness. For electric insulating parts, preference should be given to the grades A3Eg3 and A3hg3

Physical Properties	Metric	English	Comments
Density	1.23 g/cc	0.0444 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	1.9 - 2.5 %	1.9 - 2.5 %	23°C; 50% RH; ISO 62
Water Absorption at Saturation	6.7 - 7.3 %	6.7 - 7.3 %	ISO 62
Viscosity Measurement	145	145	ISO 307
Linear Mold Shrinkage	0.0075 cm/cm	0.0075 in/in	restricted
Melt Flow	73.8 g/10 min @Load 5.00 kg, Temperature 275 °C	73.8 g/10 min @Load 11.0 lb, Temperature 527 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	130 MPa	18900 psi	50 mm/min; ISO 527-1/-2
Elongation at Yield	3.0 %	3.0 %	50 mm/min; ISO 527-1/-2
Modulus of Elasticity	6.00 GPa	870 ksi	ISO 527-1/-2
Flexural Strength	200 MPa	29000 psi	at max force; ISO 178
Flexural Modulus	5.50 GPa	798 ksi	ISO 178
Izod Impact, Notched (ISO)	5.50 kJ/m ² @Temperature 23.0 °C	2.62 ft-lb/in ² @Temperature 73.4 °F	ISO 180/A
Charpy Impact Unnotched	4.30 J/cm ² @Temperature -30.0 °C	20.5 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
	4.50 J/cm ² @Temperature 23.0 °C	21.4 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.700 J/cm ² @Temperature -30.0 °C	3.33 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	0.800 J/cm ² @Temperature 23.0 °C	3.81 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 60093
Dielectric Constant	3.5 @Frequency 1e+6 Hz	3.5 @Frequency 1e+6 Hz	IEC 60250
Dissipation Factor	0.0014 @Frequency 1e+6 Hz	0.0014 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	450 V	450 V	Test solution A; IEC 60112