

BASF Ultramid® A3WG7

Ultramid A3WG7 is a 35% glass fiber reinforced and heat resistance injection molding PA66 grade for machinery for industrial items.

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in ³	ISO 1183
Water Absorption	4.7 - 5.3 %	4.7 - 5.3 %	ISO 62
Moisture Absorption at Equilibrium	1.4 - 1.8 %	1.4 - 1.8 %	23°C/50% R.H.; ISO 62
Viscosity Number	145 cm ³ /g	1.45 dl/g	ISO 307
Linear Mold Shrinkage	0.0050 cm/cm	0.0050 in/in	
Melt Flow	49.3 g/10 min @Load 5.00 kg, Temperature 275 °C	49.3 g/10 min @Load 11.0 lb, Temperature 527 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	210 MPa	30500 psi	50mm/min; ISO 527
Elongation at Yield	3.0 %	3.0 %	50mm/min; ISO 527
Modulus of Elasticity	5.00 GPa @Temperature 140 °C	725 ksi @Temperature 284 °F	ISO 527
	6.00 GPa @Temperature 80.0 °C	870 ksi @Temperature 176 °F	ISO 527
	8.50 GPa @Temperature 40.0 °C	1230 ksi @Temperature 104 °F	ISO 527
	11.5 GPa @Temperature 0.000 °C	1670 ksi @Temperature 32.0 °F	ISO 527
Flexural Strength	300 MPa	43500 psi	ISO 178
Flexural Modulus	10.0 GPa	1450 ksi	ISO 527
Izod Impact, Notched (ISO)	14.0 kJ/m ²	6.66 ft-lb/in ²	ISO 180/A
Charpy Impact Unnotched	9.50 J/cm ²	45.2 ft-lb/in ²	ISO 179/1eU
Charpy Impact, Notched	7.50 J/cm ² @Temperature -30.0 °C	35.7 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
	1.40 J/cm ²	6.66 ft-lb/in ²	ISO 179/1eA
	1.20 J/cm ² @Temperature -30.0 °C	5.71 ft-lb/in ² @Temperature -22.0 °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	0.020 @Frequency 1e+6 Hz	0.020 @Frequency 1e+6 Hz	IEC 60250
Comparative Tracking Index	450 V	450 V	Test Solution A; IEC 60112