

BASF Ultramid® A3WG8

Description: Ultramid A3WG8 BK20560 is a 40% glass fiber reinforced, pigmented black PA66. This grade offers excellent heat resistance and high strength. It is designed for industrial applications requiring excellent strength and stiffness.

Physical Properties	Metric	English	Comments
Density	1.46 g/cc	0.0527 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	1.5 %	1.5 %	50% RH; ISO 62

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	220 MPa	31900 psi	ISO 527
Elongation at Break	3.0 %	3.0 %	ISO 527
Tensile Modulus	13.2 GPa	1910 ksi	ISO 527
Flexural Modulus	12.0 GPa	1740 ksi	ISO 178
Izod Impact, Notched (ISO)	12.0 kJ/m ² @Temperature -40.0 °C	5.71 ft-lb/in ² @Temperature -40.0 °F	ISO 180
	14.0 kJ/m ² @Temperature 23.0 °C	6.66 ft-lb/in ² @Temperature 73.4 °F	ISO 180
Charpy Impact Unnotched	8.30 J/cm ² @Temperature -30.0 °C	39.5 ft-lb/in ² @Temperature -22.0 °F	ISO 179
	9.50 J/cm ² @Temperature 23.0 °C	45.2 ft-lb/in ² @Temperature 73.4 °F	ISO 179
Charpy Impact, Notched	1.10 J/cm ² @Temperature -30.0 °C	5.23 ft-lb/in ² @Temperature -22.0 °F	ISO 179
	1.30 J/cm ² @Temperature 23.0 °C	6.19 ft-lb/in ² @Temperature 73.4 °F	ISO 179

Thermal Properties	Metric	English	Comments
Melting Point	260 °C	500 °F	ISO 3146
Deflection Temperature at 0.46 MPa (66 psi)	260 °C	500 °F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	250 °C	482 °F	ISO 75

Processing Properties	Metric	English	Comments
Melt Temperature	280 - 305 °C	536 - 581 °F	
Mold Temperature	80.0 - 90.0 °C	176 - 194 °F	
Drying Temperature	80.0 °C	176 °F	
Dry Time	2 - 4 hour	2 - 4 hour	
Moisture Content	>= 0.12 %	>= 0.12 %	
Injection Pressure	35.0 - 125 MPa	5080 - 18100 psi	