

BASF Ultramid® B3WG5

Description: 25% glass-fiber reinforced and heat aging resistant injection-molding grade, for instance, for fan impeller glass-fiber reinforced injection-molding grade for industrial articles and electrical insulating parts.
Information provided by BASF

Physical Properties	Metric	English	Comments
Bulk Density	0.500 - 0.800 g/cc	0.0181 - 0.0289 lb/in ³	
Density	1.32 g/cc	0.0477 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	2.1 - 2.5 %	2.1 - 2.5 %	23°C; 50% RH; ISO 62
	2.3 %	2.3 %	50% RH
	7.1 %	7.1 %	Saturation
Water Absorption at Saturation	6.8 - 7.4 %	6.8 - 7.4 %	ISO 62
Viscosity Measurement	140	140	ISO 307
Linear Mold Shrinkage	0.0035 cm/cm	0.0035 in/in	restricted
Melt Flow	72.6 g/10 min @Load 5.00 kg, Temperature 275 °C	72.6 g/10 min @Load 11.0 lb, Temperature 527 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength	30.0 MPa @Strain 1 %, Temperature 150 °C	4350 psi @Strain 1 %, Temperature 302 °F	ISO 527
	35.0 MPa @Strain 1 %, Temperature 120 °C	5080 psi @Strain 1 %, Temperature 248 °F	ISO 527
	38.0 MPa @Strain 1 %, Temperature 100 °C	5510 psi @Strain 1 %, Temperature 212 °F	ISO 527
	45.0 MPa @Strain 2 %, Temperature 150 °C	6530 psi @Strain 2 %, Temperature 302 °F	ISO 527
	60.0 MPa @Strain 2 %, Temperature 120 °C	8700 psi @Strain 2 %, Temperature 248 °F	ISO 527
	65.0 MPa @Strain 2 %, Temperature 100 °C	9430 psi @Strain 2 %, Temperature 212 °F	ISO 527
	70.0 MPa @Strain 1 %, Temperature 60.0 °C	10200 psi @Strain 1 %, Temperature 140 °F	ISO 527
	83.0 MPa @Strain 1 %, Temperature 23.0 °C	12000 psi @Strain 1 %, Temperature 73.4 °F	ISO 527
	100 MPa @Strain 1 %, Temperature -20.0 °C	14500 psi @Strain 1 %, Temperature -4.00 °F	ISO 527
	100 MPa @Strain 2 %, Temperature 60.0 °C	14500 psi @Strain 2 %, Temperature 140 °F	ISO 527
	143 MPa @Strain 2 %, Temperature 23.0 °C	20700 psi @Strain 2 %, Temperature 73.4 °F	ISO 527
	170 MPa @Strain 2 %, Temperature -20.0 °C	24700 psi @Strain 2 %, Temperature -4.00 °F	ISO 527

Tensile Strength, Yield

160 MPa

23200 psi

50 mm/min; ISO
527-1/-2

Elongation at Yield	3.5 %	3.5 %	50 mm/min; ISO 527-1/-2
Modulus of Elasticity	8.00 GPa	1160 ksi	ISO 527-1/-2
Flexural Strength	220 MPa	31900 psi	at max force; ISO 178
Flexural Modulus	7.40 GPa	1070 ksi	ISO 178
Izod Impact, Notched (ISO)	12.0 kJ/m ² @Temperature 23.0 °C	5.71 ft-lb/in ² @Temperature 73.4 °F	ISO 180/A
Charpy Impact Unnotched	7.50 J/cm ² @Temperature -30.0 °C	35.7 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eU
	8.00 J/cm ² @Temperature 23.0 °C	38.1 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	1.20 J/cm ² @Temperature 23.0 °C	5.71 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA