

BASF Ultramid® A3EG5

Description: Glass fiber reinforced injection molding grade for machinery components and housings of high stiffness and dimensional stability such as coil formers and bearing cages. Also used for electrically insulating parts.

Physical Properties	Metric	English	Comments
Bulk Density	0.500 - 0.800 g/cc	0.0181 - 0.0289 lb/in³	
Density	1.32 g/cc	0.0477 lb/in³	ISO 1183
Water Absorption	5.7 - 6.3 %	5.7 - 6.3 %	ISO 62
Moisture Absorption at Equilibrium	1.7 - 2.1 %	1.7 - 2.1 %	ISO 62
Viscosity Measurement	145	145	ISO 307
Linear Mold Shrinkage	0.0055 cm/cm	0.0055 in/in	
Linear Mold Shrinkage, Flow	0.0048 cm/cm	0.0048 in/in	ISO 2577
	0.0055 cm/cm	0.0055 in/in	TM=300°C, TW=80°C
Linear Mold Shrinkage, Transverse	0.0106 cm/cm	0.0106 in/in	ISO 2577
Melt Flow	66 g/10 min @Load 5.00 kg, Temperature 275 °C	66 g/10 min @Load 11.0 lb, Temperature 527 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	175 MPa	25400 psi	ISO 527-1/-2
Elongation at Break	3.0 %	3.0 %	ISO 527-1/-2
Modulus of Elasticity	8.60 GPa	1250 ksi	ISO 527-1/-2
Flexural Strength	260 MPa	37700 psi	ISO 178
Flexural Modulus	7.60 GPa	1100 ksi	ISO 178
Izod Impact, Notched (ISO)	9.50 kJ/m² @Temperature 23.0 °C	4.52 ft-lb/in² @Temperature 73.4 °F	ISO 180/1A
Charpy Impact Unnotched	5.50 J/cm² @Temperature -30.0 °C	26.2 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eU
	6.50 J/cm² @Temperature 23.0 °C	30.9 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.900 J/cm² @Temperature -30.0 °C	4.28 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eA
	1.20 J/cm² @Temperature 23.0 °C	5.71 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eA
Tensile Creep Modulus, 1000 hours	4300 MPa @Strain <=0.5 %	624000 psi @Strain <=0.5 %	ISO 899-1