

BASF Ultramid® A3W

Description: Free-flowing, heat aging resistant and rapidly processable grade for technical parts subject to high stress such as bearings and bearing cages, gearwheels and spool bodies.
Information provided by BASF

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	2.5 - 3.1 %	2.5 - 3.1 %	23°C; 50% RH; ISO 62
Water Absorption at Saturation	8.0 - 9.0 %	8.0 - 9.0 %	ISO 62
Viscosity Measurement	150	150	ISO 307
Linear Mold Shrinkage	0.0085 cm/cm	0.0085 in/in	restricted

Melt Flow	113 g/10 min @Load 5.00 kg, Temperature 275 °C	113 g/10 min @Load 11.0 lb, Temperature 527 °F	ISO 1133
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Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	85.0 MPa	12300 psi	50 mm/min; ISO 527-1/-2
Elongation at Yield	4.4 %	4.4 %	50 mm/min; ISO 527-1/-2
Modulus of Elasticity	3.00 GPa	435 ksi	ISO 527-1/-2

Izod Impact, Notched (ISO)	5.50 kJ/m ² @Temperature 23.0 °C	2.62 ft-lb/in ² @Temperature 73.4 °F	
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	6.00 kJ/m ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	
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Charpy Impact Unnotched	NB	NB	ISO 179/1eU
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Charpy Impact, Notched	0.500 J/cm ² @Temperature -30.0 °C	2.38 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
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	0.550 J/cm ² @Temperature 23.0 °C	2.62 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA
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Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 60093
Dielectric Constant	3.2 @Frequency 1e+6 Hz	3.2 @Frequency 1e+6 Hz	IEC 60250
Dissipation Factor	0.025 @Frequency 1e+6 Hz	0.025 @Frequency 1e+6 Hz	IEC 60250

Comparative Tracking Index	500 V	500 V	Test solution A; IEC 60112
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