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BASF Ultramid® A3K(Dry)

Ultramid A3K is an easy flowing, injection molding grade PA66. It conforms to FDA requirements of 21 CFR 177.1500 (exception: food containing alcohol).

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in³	ISO 1183
Water Absorption	8.0 - 9.0 %	8.0 - 9.0 %	ISO 62
Moisture Absorption at Equilibrium	2.5 - 3.1 %	2.5 - 3.1 %	23°C/50% R.H.; ISO 62
Viscosity Number	150 cm³/g	1.50 dl/g	ISO 307
Linear Mold Shrinkage	0.0085 cm/cm	0.0085 in/in	
Melt Flow	115 g/10 min @Load 5.00 kg, Temperature 275 °C	115 g/10 min @Load 11.0 lb, Temperature 527 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength	10.0 MPa @Strain 1 %, Temperature 100 °C	1450 psi @Strain 1 %, Temperature 212 °F	ISO 527
	18.0 MPa @Strain 3 %, Temperature 100 °C	2610 psi @Strain 3 %, Temperature 212 °F	ISO 527
	21.0 MPa @Strain 1 %, Temperature 60.0 °C	3050 psi @Strain 1 %, Temperature 140 °F	ISO 527
	30.0 MPa @Strain 1 %, Temperature 23.0 °C	4350 psi @Strain 1 %, Temperature 73.4 °F	ISO 527
	40.0 MPa @Strain 1 %, Temperature -20.0 °C	5800 psi @Strain 1 %, Temperature -4.00 °F	ISO 527
	45.0 MPa @Strain 3 %, Temperature 60.0 °C	6530 psi @Strain 3 %, Temperature 140 °F	ISO 527
	79.0 MPa @Strain 3 %, Temperature 23.0 °C	11500 psi @Strain 3 %, Temperature 73.4 °F	ISO 527
	95.0 MPa @Strain 3 %, Temperature -20.0 °C	13800 psi @Strain 3 %, Temperature -4.00 °F	ISO 527
Tensile Strength, Yield	85.0 MPa	12300 psi	50mm/min; ISO 527
Elongation at Break	5.0 %	5.0 %	50mm/min; ISO 527

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Modulus of Elasticity	1.10 GPa	160 ksi	ISO 527-1/-2
	1.60 GPa @Temperature 100 °C	232 ksi @Temperature 212 °F	ISO 527
	1.75 GPa @Temperature 80.0 °C	254 ksi @Temperature 176 °F	ISO 527
	2.60 GPa @Temperature 60.0 °C	377 ksi @Temperature 140 °F	ISO 527
	3.30 GPa @Temperature 40.0 °C	479 ksi @Temperature 104 °F	ISO 527
Flexural Modulus	2.90 GPa	421 ksi	ISO 178
Izod Impact, Notched (ISO)	5.50 kJ/m²	2.62 ft-lb/in²	ISO Test
	6.00 kJ/m² @Temperature -30.0 °C	2.86 ft-lb/in² @Temperature -22.0 °F	ISO 180/A
Charpy Impact Unnotched	NB	NB	ISO 179
Charpy Impact, Notched	0.500 J/cm²	2.38 ft-lb/in²	ISO 179
	0.400 J/cm² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	ISO 179
Tensile Creep Modulus, 1000 hours	700 MPa @Strain <=0.6 %	102000 psi @Strain <=0.6 %	ISO 899-1