

Ultramid® B3K

Polyamide 6

BASF Corporation

Message:

Ultramid B3K is an easy flowing, stabilized PA6 product for fast processing.

Applications

Typical applications include technical parts with wall thicknesses greater than 2 mm.

General Information		
UL YellowCard	E36632-531651	E41871-233693
Features	Good Flow	
	Oil Resistant	
Agency Ratings	EC 1907/2006 (REACH)	
RoHS Compliance	RoHS Compliant	
Forms	Pellets	
Processing Method	Injection Molding	
Multi-Point Data	Creep Modulus vs. Time (ISO 11403-1)	
	Isochronous Stress vs. Strain (ISO 11403-1)	
	Isothermal Stress vs. Strain (ISO 11403-1)	
	Secant Modulus vs. Strain (ISO 11403-1)	
	Viscosity vs. Shear Rate (ISO 11403-2)	

Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.13	--	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	160	--	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.18 mm)	1.0	--	%	
Water Absorption				
Saturation	9.5	--	%	ASTM D570
Saturation, 23°C	9.5	--	%	ISO 62
Equilibrium, 50% RH	3.0	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	3.0	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3000	1000	MPa	ISO 527-2
Tensile Strength				
Yield, 23°C	90.0	--	MPa	ASTM D638
Yield, 23°C	85.0	40.0	MPa	ISO 527-2
Break, 23°C	80.0	--	MPa	ISO 527-2
Tensile Elongation				

Yield, 23°C	3.7	--	%	ASTM D638
Yield, 23°C	3.7	20	%	ISO 527-2
Break, 23°C	20	--	%	ASTM D638
Nominal Tensile Strain at Break (23°C)	20	> 50	%	ISO 527-2
Flexural Modulus (23°C)	2600	--	MPa	ASTM D790, ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	4.0	--	kJ/m ²	
23°C	5.5	60	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	100	--	kJ/m ²	
23°C	No Break	No Break		
Notched Izod Impact				
23°C	75	--	J/m	ASTM D256
23°C	5.6	--	kJ/m ²	ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	160	--	°C	ASTM D648
1.8 MPa, Unannealed	65.0	--	°C	ASTM D648, ISO 75-2/A
Peak Melting Temperature	220	--	°C	ASTM D3418, ISO 3146
CLTE - Flow				
--	4.0E-5	--	cm/cm/°C	ASTM E831
--	8.5E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.710 mm	130	--	°C	
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
6.00 mm	130	--	°C	
RTI Imp				UL 746
1.50 mm	75.0	--	°C	
3.00 mm	75.0	--	°C	
6.00 mm	75.0	--	°C	
RTI Str				UL 746
1.50 mm	115	--	°C	
3.00 mm	115	--	°C	
6.00 mm	115	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity				
1.50 mm	1.0E+13	1.0E+10	ohms · cm	ASTM D257

--	1.0E+13	1.0E+10	ohms·cm	IEC 60093
Dielectric Constant				IEC 60250
100 Hz	4.00	--		
1 MHz	3.50	7.00		
Dissipation Factor				IEC 60250
100 Hz	0.010	--		
1 MHz	0.023	0.30		
Comparative Tracking Index	600	600	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.50 mm	HB	--		
3.00 mm	V-2	--		
6.00 mm	V-2	--		
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	2.0 to 4.0		hr	
Suggested Max Moisture	0.15		%	
Processing (Melt) Temp	240 to 285		°C	
Mold Temperature	65.0 to 80.0		°C	
Injection Pressure	3.50 to 12.5		MPa	
Injection Rate	Fast			

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