



Ultramid® B3K

BASF Corporation - Polyamide 6

Monday, November 4, 2019

General Information

Product Description

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

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Additive	• Unspecified Stabilizer
Features	• Good Flow • Oil Resistant
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• CHRYSLER MS-DB-41 CPN4552 Color: 464 Black • FORD WSK-M4D672-A
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density / Specific Gravity	1.13	--		ASTM D792
Density	1.13	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)				ISO 1133
275°C/5.0 kg	160	--	cm ³ /10min	
Molding Shrinkage - Flow (0.125 in)	0.010	--	in/in	
Water Absorption (Saturation)	9.5	--	%	ASTM D570
Water Absorption				ISO 62
Saturation, 73°F	9.5	--	%	
Water Absorption				ASTM D570
Equilibrium, 50% RH	3.0	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	3.0	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	435000	145000	psi	ISO 527-2
Tensile Strength (Yield, 73°F)	13100	--	psi	ASTM D638
Tensile Stress (Yield, 73°F)	12300	5800	psi	ISO 527-2
Tensile Stress (Break, 73°F)	11600	--	psi	ISO 527-2
Tensile Elongation (Yield, 73°F)	3.7	--	%	ASTM D638
Tensile Strain (Yield, 73°F)	3.7	20	%	ISO 527-2
Tensile Elongation (Break, 73°F)	20	--	%	ASTM D638
Nominal Tensile Strain at Break				ISO 527-2
73°F	20	> 50	%	
Flexural Modulus (73°F)	377000	--	psi	ASTM D790
Flexural Modulus (73°F)	377000	--	psi	ISO 178

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-22°F	1.9	--	ft·lb/in ²	
73°F	2.6	29	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	48	--	ft·lb/in ²	
73°F	No Break	No Break		
Notched Izod Impact (73°F)	1.4	--	ft·lb/in	ASTM D256
Notched Izod Impact Strength				ISO 180
73°F	2.7	--	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				ASTM D648
66 psi, Unannealed	320	--	°F	
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	356	--	°F	
Deflection Temperature Under Load				ASTM D648
264 psi, Unannealed	149	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	149	--	°F	
Peak Melting Temperature	428	--	°F	ASTM D3418
Melting Temperature (DSC)	428	--	°F	ISO 3146
CLTE - Flow	2.2E-5	--	in/in/°F	ASTM E831
CLTE - Flow	4.7E-5	--	in/in/°F	
RTI Elec				UL 746
0.028 in	266	--	°F	
0.06 in	266	--	°F	
0.12 in	266	--	°F	
0.24 in	266	--	°F	
RTI Imp				UL 746
0.06 in	167	--	°F	
0.12 in	167	--	°F	
0.24 in	167	--	°F	
RTI Str				UL 746
0.06 in	239	--	°F	
0.12 in	239	--	°F	
0.24 in	239	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0591 in)	1.0E+15	1.0E+12	ohms·cm	ASTM D257
Volume Resistivity	1.0E+15	1.0E+12	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

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Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.06 in	HB	--		
0.12 in	V-2	--		
0.24 in	V-2	--		

Processing Information			
Injection		Dry	Unit
Drying Temperature		176	°F
Drying Time		2.0 to 4.0	hr
Suggested Max Moisture		0.15	%
Processing (Melt) Temp		464 to 545	°F
Mold Temperature		149 to 176	°F
Injection Pressure		508 to 1810	psi
Injection Rate		Fast	

Notes

¹ Typical properties: these are not to be construed as specifications.