



Ultramid® B3M6

BASF Corporation - Polyamide 6

Monday, November 4, 2019

General Information

Product Description

Ultramid B3M6 is a 30% mineral reinforced injection molding PA6 grade for industrial items requiring high impact strength and very high dimensional stability, excellent laser markability.

Applications

Typical applications include industrial items.

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Mineral, 30% Filler by Weight
Features	• High Dimensional Stability • Laser Markable • High Impact Resistance • Oil Resistant
Uses	• Industrial Applications
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• CHRYSLER MS-DB-41 CPN3949 Color: Black • GM GMP.PA6.052 Color: Natural • FORD WSK-M4D849-A • GM GMW8694P-PA6-M30 • GM GMP.PA6.052 Color: Black • GM GMW8694P-PA6-M30H Color: Black • GM GMW8694P-PA6-M30H Color: Natural
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.36		ASTM D792
Density	1.36	g/cm ³	ISO 1183
Molding Shrinkage - Flow (0.125 in)	9.0E-3	in/in	
Water Absorption (Saturation)	6.2	%	ASTM D570
Water Absorption (Saturation, 73°F)	6.2	%	ISO 62
Water Absorption (Equilibrium, 50% RH)	2.4	%	ASTM D570
Water Absorption (Equilibrium, 73°F, 50% RH)	2.4	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	653000	psi	ISO 527-2
Tensile Strength (Break, 73°F)	10900	psi	ASTM D638
Tensile Stress (Break, 73°F)	10900	psi	ISO 527-2
Tensile Elongation (Break, 73°F)	26	%	ASTM D638
Tensile Strain (Break, 73°F)	26	%	ISO 527-2
Flexural Modulus (73°F)	595000	psi	ASTM D790
Flexural Modulus (73°F)	595000	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
-22°F	2.6	ft·lb/in ²	
73°F	3.1	ft·lb/in ²	

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Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength (73°F)	110	ft-lb/in ²	ISO 179
Notched Izod Impact Strength			ISO 180
-40°F	3.8	ft-lb/in ²	
73°F	3.3	ft-lb/in ²	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	183	°F	
Heat Deflection Temperature (264 psi, Unannealed)	183	°F	ISO 75-2/A
Peak Melting Temperature	428	°F	ASTM D3418
Melting Temperature (DSC)	428	°F	ISO 3146
CLTE - Flow	4.9E-5	in/in/°F	
CLTE - Transverse	5.9E-5	in/in/°F	
RTI Elec			UL 746
0.06 in	149	°F	
0.12 in	149	°F	
RTI Imp			UL 746
0.06 in	149	°F	
0.12 in	149	°F	
RTI Str			UL 746
0.06 in	149	°F	
0.12 in	149	°F	
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (0.0591 in)	1.0E+17	ohms·cm	ASTM D257
Volume Resistivity	1.0E+17	ohms·cm	IEC 60093
Dielectric Constant (1 MHz)	3.50		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	0.020		
1 MHz	0.020		
Comparative Tracking Index	450	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.06 in	HB		
0.12 in	HB		

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	181	°F
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.15	%
Processing (Melt) Temp	518 to 563	°F
Mold Temperature	176 to 203	°F
Injection Pressure	508 to 1810	psi
Injection Rate	Fast	

Notes

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