



Ultramid® B3EG3

BASF Corporation - Polyamide 6

Monday, November 4, 2019

General Information

Product Description

Ultramid B3EG3 is a 15% glass fiber reinforced injection molding PA6 grade for housings with enhanced impact resistance.

Applications

Typical applications include automotive mirror housings and wheels of mountain bikes.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight		
Features	• Good Impact Resistance	• Oil Resistant	
Uses	• Automotive Applications	• Housings	• Wheels
Agency Ratings	• EC 1907/2006 (REACH)		
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• FORD WSK-M4D665-A • FORD WSK-M4D665-A2	• GM GMP.PA6.029 Color: Natural • GM GMW16582P-PA6-GF15 Color: Black	• GM GMW16582P-PA6-GF15 Color: Natural
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density / Specific Gravity	1.23	--		ASTM D792
Density	1.23	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)				ISO 1133
275°C/5.0 kg	75	--	cm ³ /10min	
Molding Shrinkage - Flow (0.125 in)	5.0E-3	--	in/in	
Water Absorption (Saturation)	7.7	--	%	ASTM D570
Water Absorption				ISO 62
Saturation, 73°F	7.7	--	%	
Water Absorption				ASTM D570
Equilibrium, 50% RH	2.3	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	2.3	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	841000	508000	psi	ISO 527-2
Tensile Strength (Break, 73°F)	14900	--	psi	ASTM D638
Tensile Stress (Break, 73°F)	18900	10200	psi	ISO 527-2
Tensile Elongation (Break, 73°F)	3.5	--	%	ASTM D638
Tensile Strain (Break, 73°F)	3.5	15	%	ISO 527-2
Flexural Modulus (73°F)	750000	--	psi	ASTM D790
Flexural Modulus (73°F)	754000	363000	psi	ISO 178

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-22°F	3.3	--	ft·lb/in ²	
73°F	3.8	9.5	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	21	--	ft·lb/in ²	
73°F	24	50	ft·lb/in ²	
Notched Izod Impact				ASTM D256
-40°F	0.90	--	ft·lb/in	
73°F	1.1	--	ft·lb/in	
Notched Izod Impact Strength				ISO 180
73°F	2.9	--	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				ASTM D648
66 psi, Unannealed	419	--	°F	
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	419	--	°F	
Deflection Temperature Under Load				ASTM D648
264 psi, Unannealed	374	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	374	--	°F	
Peak Melting Temperature	428	--	°F	ASTM D3418
Melting Temperature (DSC)	428	--	°F	ISO 3146
CLTE - Flow	1.1E-5	--	in/in/°F	ASTM E831
CLTE - Flow	1.8E-5	--	in/in/°F	
CLTE - Transverse	4.2E-5	--	in/in/°F	
RTI Elec				UL 746
0.03 in	248	--	°F	
0.06 in	248	--	°F	
0.12 in	248	--	°F	
RTI Imp				UL 746
0.06 in	203	--	°F	
0.12 in	203	--	°F	
RTI Str				UL 746
0.06 in	266	--	°F	
0.12 in	266	--	°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 (1 MHz)	3.80	7.00		IEC 60250
Dissipation Factor				IEC 60250
100 Hz	0.025	0.24		
1 MHz	0.025	0.24		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.06 in	HB	--		
0.12 in	HB	--		

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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	482 to 554	°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.