

Ultramid® B3WG6

BASF Corporation - Polyamide 6

General Information

Product Description

Ultramid B3WG6 is a 30% glass fiber reinforced, heat stabilized injection molding PA6 grade.

Applications

Typical applications include automotive manifolds and pedals.

General

Material Status	•Commercial: Active		
Availability	•Asia Pacific	•Europe	• North America
Filler / Reinforcement	•Glass Fiber, 30% Filler by Weight		
Additive	•Heat Stabilizer		
Features	•Heat Stabilized	•Oil Resistant	
Uses	•Automotive Applications	•Automotive Under the Hood	
Agency Ratings	•EC 1907/2006 (REACH)		
RoHS Compliance	•RoHS Compliant		
Automotive Specifications	•CHRYSLER MS-DB-41 CPN3840 Color: Black •CHRYSLER MS-DB-41 CPN4183 Color: Natural •FORD WSK-M4D664-A	•FORD WSK-M4D664-A2 •FORD WSS-M4D993-A •FORD WSS-M4D993-B1	• GM GMP.PA6.054 Color: Black • GM GMP.PA6.054 Color: Natural • GM GMW3029P-PA6-GF30H Color: Natural
Forms	• Pellets		
Processing Method	•Injection Molding		

ASTM & ISO Properties 1

Physical	Dry	Conditioned	Unit	Test Method
Density / Specific Gravity	1.36	--		ASTM D792
Density	1.36	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR)				ISO 1133
275°C/5.0 kg	50	--	cm ³ /10min	
Molding Shrinkage - Flow (0.125 in)	3.0E-3	--	in/in	
Water Absorption (Saturation)	6.6	--	%	ASTM D570
Water Absorption				ISO 62
Saturation, 73°F	6.6	--	%	
Water Absorption				ASTM D570
Equilibrium, 50% RH	2.1	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	2.1	--	%	

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Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.38E+6	899000	psi	ISO 527-1
Tensile Strength (Break, 73°F)	26000	--	psi	ASTM D638
Tensile Stress (Break, 73°F)	26800	16700	psi	ISO 527-2
Tensile Elongation (Break, 73°F)	3.3	--	%	ASTM D638
Tensile Strain				ISO 527-2
Break, -40°F	4.0	--	%	
Break, 73°F	3.5	8.0	%	
Flexural Modulus (73°F)	1.20E+6	--	psi	ASTM D790
Flexural Modulus (73°F)	1.25E+6	725000	psi	ISO 178 ISO
Flexural Stress (73°F)	39200	26100	psi	178 Test
Impact	Dry	Conditioned	Unit	Method ISO
Charpy Notched Impact Strength				179
-22°F	5.2	--	ft-lb/in ²	
73°F	7.1	14	ft-lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	38	--	ft-lb/in ²	
73°F	45	52	ft-lb/in ²	
Notched Izod Impact				ASTM D256
-40°F	2.0	--	ft-lb/in	
73°F	2.5	--	ft-lb/in	
Notched Izod Impact Strength				ISO 180
73°F	7.1	9.5	ft-lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				ASTM D648
66 psi, Unannealed	428	--	°F	
Deflection Temperature Under Load				ISO 75-2/B
66 psi, Unannealed	428	--	°F	
Deflection Temperature Under Load				ASTM D648
264 psi, Unannealed	405	--	°F	
Deflection Temperature Under Load				ISO 75-2/A
264 psi, Unannealed	410	--	°F	
Peak Melting Temperature	428	--	°F	ASTM D3418
Melting Temperature (DSC)	428	--	°F	ISO 3146
CLTE - Flow	5.6E-6	--	in/in/°F	ASTM E831
CLTE - Flow	1.3E-5	--	in/in/°F	
CLTE - Transverse	3.6E-5	--	in/in/°F	
RTI Elec				UL 746B
0.030 in	266	--	°F	
0.06 in	266	--	°F	
0.12 in	266	--	°F	
RTI Imp				UL 746B
0.06 in	194	--	°F	
0.12 in	203	--	°F	

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Thermal	Dry	Conditioned	Unit	Test Method
RTI Str				UL 746B
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	6.80		IEC 60250
Dissipation Factor (1 MHz)	0.023	0.22		IEC 60250
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.06 in	HB	--		
0.12 in	HB	--		

Processing Information

Injection	Dry Unit
Drying Temperature	°F81 hr
Drying Time Suggested	2.0 to 4.0 %
Max Moisture Processing	
(Melt) Temp Mold	518 to 563 °F
Temperature Injection	176 to 203 °F
Pressure Injection Rate	508 to 1810 psi
	Fast

Notes

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