



Ultramid® B3WG7

BASF Corporation - Polyamide 6

Monday, November 4, 2019

General Information

Product Description

Ultramid B3WG7 is a 35% glass fiber reinforced injection molding PA6 grade for highly rigid, dimensionally stable components which are resistant to high temperature aging and have improved retention of properties in a hot water environment.

Applications

Typical applications include automotive clutch and accelerator pedals.

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Glass Fiber, 35% Filler by Weight
Features	• Good Dimensional Stability • High Rigidity • Heat Aging Resistant • Oil Resistant
Uses	• Automotive Applications
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• CHRYSLER MS-DB-41 CPN3884 Color: Black • FMVSS 302 • GM GMP.PA6.009 Color: Natural • PSA Peugeot-Citroën SPA X62 4134 Color: 00564 Black • SAE J1639 PA1216 Color: Black • SAE J1639 PA1216 Color: Natural • SAE J1639 PA1216 Color: BGWV
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.41	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) 275°C/5.0 kg	45	--	cm ³ /10min	ISO 1133
Water Absorption Saturation, 73°F	6.2	--	%	ISO 62
Water Absorption Equilibrium, 73°F, 50% RH	2.0	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.60E+6	1.04E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	28300	18900	psi	ISO 527-2
Tensile Strain				ISO 527-2
Break, -40°F	3.8	--	%	
Break, 73°F	3.5	7.0	%	
Flexural Modulus (73°F)	1.45E+6	--	psi	ISO 178

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-22°F	6.2	--	ft·lb/in ²	
73°F	8.6	16	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	43	--	ft·lb/in ²	
73°F	48	52	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	428	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	419	--	°F	
Melting Temperature (DSC)	428	--	°F	ISO 3146
CLTE - Flow	1.0E-5	--	in/in/°F	
CLTE - Transverse	3.6E-5	--	in/in/°F	
RTI Elec				UL 746
0.030 in	266	--	°F	
0.06 in	266	--	°F	
0.12 in	266	--	°F	
RTI Imp				UL 746
0.06 in	194	--	°F	
0.12 in	212	--	°F	
RTI Str				UL 746
0.06 in	266	--	°F	
0.12 in	266	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+13	1.0E+10	ohms	IEC 60093
Dielectric Constant (1 MHz)	3.90	6.20		IEC 60250
Dissipation Factor				IEC 60250
100 Hz	0.021	0.19		
1 MHz	0.021	0.19		
Comparative Tracking Index	450	450	V	IEC 60112
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	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.