

Ultramid® B3WG5

Polyamide 6

BASF Corporation

Message:

Ultramid B3WG5 is a 25% glass fiber reinforced injection molding PA6 grade with heat aging resistance.

Applications

Typical applications include fan wheels.

General Information				
UL YellowCard	E36632-531659	E41871-233702		
Filler / Reinforcement	Glass Fiber,25% Filler by Weight			
Features	Good Heat Aging Resistance			
	Oil Resistant			
Agency Ratings	EC 1907/2006 (REACH)			
RoHS Compliance	RoHS Compliant			
Forms	Pellets			
Processing Method	Injection Molding			
Multi-Point Data	Creep Modulus vs. Time (ISO 11403-1)			
	Isochronous Stress vs. Strain (ISO 11403-1)			
	Isothermal Stress vs. Strain (ISO 11403-1)			
	Secant Modulus vs. Strain (ISO 11403-1)			
	Viscosity vs. Shear Rate (ISO 11403-2)			
Physical	Dry	Conditioned	Unit	Test Method
Specific Gravity	1.32	--	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	55.0	--	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.18 mm)	0.40	--	%	
Water Absorption				
Saturation	7.1	--	%	ASTM D570
Saturation, 23°C	7.1	--	%	ISO 62
Equilibrium, 50% RH	2.3	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	2.3	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	8000	5500	MPa	ISO 527-2
Tensile Strength				
Break, 23°C	170	--	MPa	ASTM D638
Break, 23°C	160	105	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3.5	8.5	%	ISO 527-2

Flexural Modulus (23°C)	7400	--	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	10	--	kJ/m ²	
23°C	12	25	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	75	--	kJ/m ²	
23°C	80	110	kJ/m ²	
Notched Izod Impact				ASTM D256
-40°C	91	--	J/m	
23°C	110	--	J/m	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed	220	--	°C	ASTM D648, ISO 75-2/B
1.8 MPa, Unannealed	210	--	°C	ASTM D648, ISO 75-2/A
Peak Melting Temperature	220	--	°C	ASTM D3418, ISO 3146
CLTE				
Flow	1.0E-5	--	cm/cm/°C	ASTM E831
Flow	2.3E-5	--	cm/cm/°C	
Transverse	6.5E-5	--	cm/cm/°C	
RTI Elec				UL 746
0.750 mm	130	--	°C	
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
RTI Imp				UL 746
1.50 mm	95.0	--	°C	
3.00 mm	95.0	--	°C	
RTI Str				UL 746
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity				
1.50 mm	1.0E+15	1.0E+12	ohms·cm	ASTM D257
--	1.0E+13	1.0E+10	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		
Comparative Tracking Index	450	450	V	IEC 60112

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
1.50 mm	HB	--		
3.00 mm	HB	--		
Injection	Dry	Unit		
Drying Temperature	83.0		°C	
Drying Time	2.0 to 4.0		hr	
Suggested Max Moisture	0.15		%	
Processing (Melt) Temp	270 to 295		°C	
Mold Temperature	80.0 to 95.0		°C	
Injection Pressure	3.50 to 12.5		MPa	
Injection Rate	Fast			

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