



Ultramid® D3WG12 HMG BK00102

BASF Corporation - Polyamide

Monday, November 4, 2019

General Information

Product Description

Ultramid D3WG12 HMG BK00102 is a 60% glass reinforced, injection molding polyamide offering high strength and stiffness. Due to inherently lower moisture absorption, Ultramid D3WG12 HMG BK00102 shows improved retention of mechanical properties after moisture conditioning. In addition, molded parts possess an exceptional surface finish.

Applications

Ultramid D3WG12 HMG BK00102 was designed for applications requiring very high rigidity and should be considered for components that are constructed with metal.

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • North America
Filler / Reinforcement	• Glass Fiber, 60% Filler by Weight
Features	• High Rigidity • High Strength • High Stiffness • Outstanding Surface Finish
Uses	• Metal Replacement
Agency Ratings	• EC 1907/2006 (REACH)
RoHS Compliance	• RoHS Compliant
Appearance	• Black
Forms	• Pellets
Processing Method	• Injection Molding

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.75	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow	0.25	--	%	
Flow	0.19	--	%	
Water Absorption				ISO 62
Saturation, 73°F	2.5	--	%	
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	1.0	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	2.93E+6	3.02E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	36000	31900	psi	ISO 527-2
Tensile Strain (Break, 73°F)	2.5	2.2	%	ISO 527-2
Flexural Modulus (73°F)	2.74E+6	2.81E+6	psi	ISO 178
Flexural Stress (73°F)	55500	50900	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-22°F	5.7	5.7	ft·lb/in ²	
73°F	6.2	7.1	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	45	40	ft·lb/in ²	
73°F	47	44	ft·lb/in ²	

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Impact	Dry	Conditioned	Unit	Test Method
Notched Izod Impact Strength				ISO 180
-40°F	5.7	5.2	ft·lb/in ²	
73°F	6.2	6.2	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	435	--	°F	
Melting Temperature (DSC)	500	--	°F	ISO 3146

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	536 to 581	°F
Mold Temperature	176 to 194	°F
Injection Pressure	508 to 1810	psi
Injection Rate	Fast	

Notes

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