

Ultramid® B3WGM24 HP

Polyamide 6

BASF Corporation

Message:

Glass-fibre and mineral reinforced injection moulding grade with outstanding flowability for industrial articles having medium to high rigidity, used e.g. for automobile engine covers, housings, etc.

General Information				
Filler / Reinforcement		Glass fiber reinforced material, 10% filler by weight Mineral filler, 20% filler by weight		
Features		Good liquidity Oil resistance		
Uses		Industrial components Application in Automobile Field Shell		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS compliance		
Forms		Particle		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.37	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	90.0	--	cm ³ /10min	ISO 1133
Molding Shrinkage				ISO 294-4
Vertical flow direction	0.59	--	%	ISO 294-4
Flow direction	0.41	--	%	ISO 294-4
Water Absorption				ISO 62
Saturated, 23°C	6.9 - 7.5	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.1 - 2.5	--	%	ISO 62
Viscosity Number (96% H ₂ SO ₄)	123	--	cm ³ /g	ISO 307
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	8500	3600	MPa	ISO 527-2
Tensile Stress				
Yield	--	50.0	MPa	ISO 527-2/50
Fracture	115	--	MPa	ISO 527-2

Tensile Strain				
Yield	--	5.0	%	ISO 527-2/50
Fracture	2.7	--	%	ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	5.5	--	kJ/m ²	ISO 179/1eA
23°C	8.0	15	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	40	--	kJ/m ²	ISO 179/1eU
23°C	45	50	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	8.0	--	kJ/m ²	ISO 180/A
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	215	--	°C	ISO 75-2/B
1.8 MPa, not annealed	190	--	°C	ISO 75-2/A
Melting Temperature	220	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 80°C	6.0E-5 - 1.1E-4	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 80°C	3.4E-5 - 3.8E-5	--	cm/cm/°C	ISO 11359-2
Specific Heat	1300	--	J/kg/°C	
Maximum operating temperature-short cycle operation	180	--	°C	
Polymer Abbreviation	PA6-(GF10+M20)	--		
Screw Speed			mm/sec	
Electrical	Dry	Conditioned	Unit	Test Method
Surface Resistivity	1.0E+10	--	ohms	IEC 60093
Volume Resistivity	1.0E+15	1.0E+12	ohms·cm	IEC 60093
Relative Permittivity (1 MHz)	3.90	6.20		IEC 60250
Dissipation Factor (1 MHz)	0.020	0.20		IEC 60250
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	4.0		hr	
Suggested Max Moisture	0.15		%	
Hopper Temperature	80.0		°C	
Rear Temperature	260		°C	
Middle Temperature	270		°C	
Front Temperature	280		°C	
Nozzle Temperature	280		°C	

Processing (Melt) Temp	270 - 290	°C
Mold Temperature	80.0 - 90.0	°C
Injection instructions		
Residence Time : <10 min		

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