

Ultramid® B3EG10

Polyamide 6

BASF Corporation

Message:

Glass fibre reinforced injection moulding grade for industrial articles having very high rigidity.

General Information				
UL YellowCard		E36632-531645	E41871-233684	
Filler / Reinforcement		Glass fiber reinforced material, 50% filler by weight		
Features		Rigidity, high		
		Oil resistance		
Uses		Industrial components		
Agency Ratings		EC 1907/2006 (REACH)		
RoHS Compliance		RoHS compliance		
Forms		Particle		
Processing Method		Injection molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.55	--	g/cm³	ISO 1183
Apparent Density	0.70	--	g/cm³	
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	15.0	--	cm³/10min	ISO 1133
Water Absorption				ISO 62
Saturated, 23°C	4.5 - 5.1	--	%	ISO 62
Equilibrium, 23°C, 50% RH	1.3 - 1.7	--	%	ISO 62
Viscosity Number (96% H2SO4)	135	--	cm³/g	ISO 307
Mold Shrinkage - constrained ¹	0.30	--	%	
Temperature index-at 50% loss of tensile strength				IEC 60216
-- ²	165	--	°C	IEC 60216
-- ³	135	--	°C	IEC 60216
Maximum operating temperature-short cycle operation	200	--	°C	
Automotive Materials (> 1.00 mm)	Passed	--		FMVSS 302
Polymer Abbreviation	PA6-GF50	--		
Screw Speed			mm/sec	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	16000	11000	MPa	ISO 527-2

Tensile Stress (Break)	235	160	MPa	ISO 527-2
Tensile Strain (Break)	3.0	5.5	%	ISO 527-2
Tensile Creep Modulus ⁴ (1000 hr)	7400	--	MPa	ISO 899-1
Flexural Modulus	15000	9000	MPa	ISO 178
Flexural Stress	320	240	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	16	--	kJ/m ²	ISO 179/1eA
23°C	22	30	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	90	--	kJ/m ²	ISO 179/1eU
23°C	100	110	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	20	24	kJ/m ²	ISO 180/A
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, not annealed	220	--	°C	ISO 75-2/B
1.8 MPa, not annealed	215	--	°C	ISO 75-2/A
Melting Temperature	220	--	°C	ISO 11357-3
Linear thermal expansion coefficient				ISO 11359-2
Flow: 23 to 80°C	1.0E-5 - 1.5E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 80°C	5.0E-5 - 6.0E-5	--	cm/cm/°C	ISO 11359-2
Specific Heat	1300	--	J/kg/°C	
Thermal Conductivity	0.38	--	W/m/K	DIN 52612
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)	4.20	6.10		IEC 60250
Dissipation Factor (1 MHz)	0.014	0.14		IEC 60250
Comparative Tracking Index (Solution A)	550	--	V	IEC 60112
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating (1.60 mm)	HB	--		UL 94
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	270		°C	

Middle Temperature	280	°C
Front Temperature	290	°C
Nozzle Temperature	290	°C
Processing (Melt) Temp	280 - 300	°C
Mold Temperature	80.0 - 90.0	°C

Injection instructions

Residence Time : <10 min

NOTE

1.	Test box with central gating, dimensions of base (107*47*1,5) mm, processing conditions: TM = 290°C, TW = 80°C
2.	5000 h
3.	20000 h
4.	strain <= 0.5%, 23°C

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