

Ultramid® B35EG3

Polyamide 6

BASF Corporation

Message:

Glass fibre reinforced injection moulding grade e.g. for internal gas pressure applications such as steering column switch, automobile mirror housings and wheels of mountain bikes.

General Information				
UL YellowCard	E41871-233679			
Filler / Reinforcement	Glass fiber reinforced material, 15% filler by weight			
Features	Oil resistance			
Uses	Wheels			
	Application in Automobile Field			
	Shell			
Agency Ratings	EC 1907/2006 (REACH)			
RoHS Compliance	RoHS compliance			
Forms	Particle			
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
Density	1.23	--	g/cm ³	ISO 1183
Apparent Density	0.70	--	g/cm ³	
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	40.0	--	cm ³ /10min	ISO 1133
Water Absorption				ISO 62
Saturated, 23°C	7.7 - 8.3	--	%	ISO 62
Equilibrium, 23°C, 50% RH	2.3 - 2.9	--	%	ISO 62
Viscosity Number (96% H ₂ SO ₄)	170	--	cm ³ /g	ISO 307
Mold Shrinkage - constrained ¹	0.55	--	%	
Temperature index-at 50% loss of tensile strength				IEC 60216
-- ²	135	--	°C	IEC 60216
-- ³	165	--	°C	IEC 60216

Maximum operating temperature-short cycle operation	200	--	°C	
Automotive Materials (> 1.00 mm)	Passed	--		FMVSS 302
Polymer Abbreviation	PA6-GF15	--		
Screw Speed			mm/sec	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	5800	3500	MPa	ISO 527-2
Tensile Stress (Break)	130	70.0	MPa	ISO 527-2
Tensile Strain (Break)	4.0	18	%	ISO 527-2
Tensile Creep Modulus ⁴ (1000 hr)	2100	--	MPa	ISO 899-1
Flexural Modulus	5200	2500	MPa	ISO 178
Flexural Stress	180	100	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	8.0	--	kJ/m ²	ISO 179/1eA
23°C	9.0	25	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	55	--	kJ/m ²	ISO 179/1eU
23°C	60	110	kJ/m ²	ISO 179/1eU
Notched Izod Impact (23°C)	6.5	16	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	3.0E-5 - 3.5E-5	--	cm/cm/°C	ISO 11359-2
Lateral: 23 to 80°C	7.0E-5 - 8.0E-5	--	cm/cm/°C	ISO 11359-2
Specific Heat	1600	--	J/kg/°C	
Thermal Conductivity	0.34	--	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)	3.80	7.00		IEC 60250
Dissipation Factor (1 MHz)	0.025	0.24		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	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				
NOTE				

- | | |
|----|--|
| | Test box with central gating, dimensions of base (107*47*1,5) mm, processing conditions: TM = 280°C, TW = 80°C |
| 1. | |
| 2. | 20000 h |
| 3. | 5000 h |
| 4. | strain <= 0.5%, 23°C |

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