

## Beijing Ranger Chem PBT 403 G-M50 Heat Resistant and Environmental Protection Flame Retarding FR PBT

**Category :** Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), Flame Retardant , Polybutylene Terephthalate (PBT), Glass + Mineral Filled

### Material Notes:

**Modified PBT Characteristics:** Unreinforced grades have abundant strength and flexibility, and have strong characteristics against brittleness. UL-certified slow-burning (94HB) and self-extinguishing grades (94V-0, V-2) exist, and electrical properties exhibited are the highest of any thermoplastic. Low water absorption is exhibited, and excellent electrical properties (CTI and GWIT) are retained over extended periods of usages, even with widely varied temperature and humidity conditions. The surface of molded products is smooth, and a low coefficient of friction is exhibited. As the amount of friction is low, PBT is suitable for use in application requiring friction and wear properties. The material is exceptionally reliable, with small in-use dimensional variation, and superior molding stability and dimensional precision. Long-term chemical resistance is exceptional, and at room temperature, there is almost no degradation in properties after. Both unreinforced and reinforced grades exhibit exceptional flowability, and excellent processability. Application: VCD drive frames Connectors Trimmers Switch buttons for gas-fired instantaneous water heaters Relay blocks Driers Rectifiers Outer handles Height sensor cases Door mirror stays Drive component housings Energy saving lamp. Information provided by Beijing Ranger Chemical Co.

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[http://www.lookpolymers.com/polymer\\_Beijing-Ranger-Chem-PBT-403-G-M50-Heat-Resistant-and-Environmental-Protection-Flame-Retarding-FR-PBT.php](http://www.lookpolymers.com/polymer_Beijing-Ranger-Chem-PBT-403-G-M50-Heat-Resistant-and-Environmental-Protection-Flame-Retarding-FR-PBT.php)

Physical Properties	Metric	English	Comments
Density	1.71 g/cc	0.0618 lb/in <sup>3</sup>	ASTM D792
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Moisture Absorption at Equilibrium	0.030 %	0.030 %	ASTM D570
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °F, Time 24.0 hour	
Linear Mold Shrinkage	0.0040 - 0.0050 cm/cm	0.0040 - 0.0050 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	125 MPa	18100 psi	ASTM D638
Flexural Strength	210 MPa	30500 psi	ASTM D790
Flexural Modulus	10.5 GPa	1520 ksi	ASTM D790
Izod Impact, Notched (ISO)	14.0 kJ/m <sup>2</sup>	6.66 ft-lb/in <sup>2</sup>	ASTM D256
Izod Impact, Unnotched (ISO)	70.0 kJ/m <sup>2</sup>	33.3 ft-lb/in <sup>2</sup>	ASTM D256

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	220 °C	428 °F	ASTM D648

Thermal Properties	Metric	English	Comments
Flammability, UL94	V-0	V-0	ASTM D638
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	V-0	V-0	
	@Thickness 1.60 mm	@Thickness 0.0630 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.30e+16 ohm-cm	1.30e+16 ohm-cm	ASTM D257
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Dielectric Constant	3.2	3.2	ASTM D150
	@Frequency 50.0 Hz	@Frequency 50.0 Hz	
Dielectric Strength	22.0 kV/mm	559 kV/in	ASTM D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Dielectric Loss Index	0.020	0.020	Tangent; ASTM D150
	@Frequency 50.0 Hz	@Frequency 50.0 Hz	

Processing Properties	Metric	English	Comments
Nozzle Temperature	265 °C	509 °F	
Melt Temperature	225 - 280 °C	437 - 536 °F	
Mold Temperature	60.0 - 80.0 °C	140 - 176 °F	
Injection Pressure	100 - 140 MPa	14500 - 20300 psi	
Back Pressure	10.0 - 20.0 MPa	1450 - 2900 psi	
Screw Speed	<= 100 rpm	<= 100 rpm	

## Contact Songhan Plastic Technology Co.,Ltd.

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