

## Beijing Ranger Chem PBT 403 M-G30 Heat Resistant and Environmental Protection Flame Retarding FR PBT

Category: Polymer, Thermoplastic, Polyester, TP, Polybutylene Terephthalate (PBT), Polybutylene Terephthalate (PBT), 30% Glass Fiber Filled, Polybutylene Terephthalate (PBT), Flame Retardant

## **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.

Order this product through the following link:

http://www.lookpolymers.com/polymer\_Beijing-Ranger-Chem-PBT-403-M-G30-Heat-Resistant-and-Environmental-Protection-Flame-Retarding-FR-PBT.php

| Physical Properties                | Metric                                  | English                                 | Comments  |
|------------------------------------|---|---|-----------|
| Density                            | 1.62 g/cc                               | 0.0585 lb/in <sup>3</sup>               | ASTM D792 |
|                                    | @Temperature 23.0 °C                    | @Temperature 73.4 °F                    |           |
| Moisture Absorption at Equilibrium | 0.050 %                                 | 0.050 %                                 | ASTM D570 |
|                                    | @Temperature 23.0 °C,<br>Time 86400 sec | @Temperature 73.4 °F,<br>Time 24.0 hour |           |
| Linear Mold Shrinkage              | 0.0040 - 0.0060 cm/cm                   | 0.0040 - 0.0060 in/in                   | ASTM D955 |

| Mechanical Properties        | Metric     | English                    | Comments  |
|------------------------------|------------|----------------------------|-----------|
| Tensile Strength, Yield      | 120 MPa    | 17400 psi                  | ASTM D638 |
| Flexural Strength            | 200 MPa    | 29000 psi                  | ASTM D790 |
| Flexural Modulus             | 10.0 GPa   | 1450 ksi                   | ASTM D790 |
| Izod Impact, Notched (ISO)   | 12.0 kJ/m² | 5.71 ft-lb/in <sup>2</sup> | ASTM D256 |
| Izod Impact, Unnotched (ISO) | 70.0 kJ/m² | 33.3 ft-lb/in²             | ASTM D256 |

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



| Thermal Properties ture at 1.8 MPs (2041)SI) | Metric              | English              | Comments<br>ASTNI DO48 |
|--|---------------------|----------------------|------------------------|
| Flammability, UL94                           | V-0                 | V-0                  |                        |
|  | @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   | 20.0 kV/mm         | 508 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    | 240 °C          | 464 °F            |          |
| Melt Temperature      | 225 - 250 °C    | 437 - 482 °F      |          |
| Mold Temperature      | 60.0 - 80.0 °C  | 140 - 176 °F      |          |
| Injection Pressure    | 80.0 - 120 MPa  | 11600 - 17400 psi |          |
| Back Pressure         | 8.00 - 18.0 MPa | 1160 - 2610 psi   |          |
| Screw Speed           | <= 100 rpm      | <= 100 rpm        |          |

## **Contact Songhan Plastic Technology Co.,Ltd.**

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