

**Product Texts**

Injection Molding, 20% Glass Beads Reinforced, Excellent Surface Properties, Low Warpage

ISO 1043 PBT-GB20

| Processing/Physical Characteristics        | Value | Unit                   | Test Standard   |
|--|-------|------------------------|-----------------|
| <b>ISO Data</b>                            |       |                        |                 |
| <sup>[C]</sup> Melt volume-flow rate, MVR  | 35    | cm <sup>3</sup> /10min | ISO 1133        |
| Temperature                                | 260   | °C                     | -               |
| Load                                       | 5     | kg                     | -               |
| <sup>[C]</sup> Molding shrinkage, parallel | 2.1   | %                      | ISO 294-4, 2577 |
| <sup>[C]</sup> Molding shrinkage, normal   | 2.1   | %                      | ISO 294-4, 2577 |

[C]: CAMPUS

| Mechanical properties                                | Value | Unit              | Test Standard |
|--|-------|-------------------|---------------|
| <b>ISO Data</b>                                      |       |                   |               |
| <sup>[C]</sup> Tensile Modulus                       | 3300  | MPa               | ISO 527       |
| <sup>[C]</sup> Stress at break                       | 50    | MPa               | ISO 527       |
| <sup>[C]</sup> Strain at break                       | 6     | %                 | ISO 527       |
| <sup>[C]</sup> Tensile creep modulus, 1h             | 3300  | MPa               | ISO 899-1     |
| <sup>[C]</sup> Tensile creep modulus, 1000h          | 2700  | MPa               | ISO 899-1     |
| <sup>[C]</sup> Charpy impact strength, +23°C         | 35    | kJ/m <sup>2</sup> | ISO 179/1eU   |
| <sup>[C]</sup> Charpy impact strength, -30°C         | 25    | kJ/m <sup>2</sup> | ISO 179/1eU   |
| <sup>[C]</sup> Charpy notched impact strength, +23°C | 10    | kJ/m <sup>2</sup> | ISO 179/1eA   |
| <sup>[C]</sup> Charpy notched impact strength, -30°C | 10    | kJ/m <sup>2</sup> | ISO 179/1eA   |
| <sup>[C]</sup> Puncture - maximum force, +23°C       | 365   | N                 | ISO 6603-2    |
| <sup>[C]</sup> Puncture energy, +23°C                | 1.1   | J                 | ISO 6603-2    |

[C]: CAMPUS

| Thermal properties   | Value | Unit  | Test Standard   |
|--|-------|-------|-----------------|
| <b>ISO Data</b>  |       |       |                 |
| <sup>[C]</sup> Melting temperature, 10°C/min               | 225   | °C    | ISO 11357-1/-3  |
| <sup>[C]</sup> Temp. of deflection under load, 1.80 MPa    | 70    | °C    | ISO 75-1/-2     |
| <sup>[C]</sup> Temp. of deflection under load, 0.45 MPa    | 170   | °C    | ISO 75-1/-2     |
| <sup>[C]</sup> Coeff. of linear therm. expansion, parallel | 100   | E-6/K | ISO 11359-1/-2  |
| <sup>[C]</sup> Coeff. of linear therm. expansion, normal   | 100   | E-6/K | ISO 11359-1/-2  |
| <sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.       | HB    | class | IEC 60695-11-10 |
| Thickness tested   | 1.5   | mm    | -               |
| <sup>[C]</sup> Oxygen index                                | 23    | %     | ISO 4589-1/-2   |

[C]: CAMPUS

| Electrical properties                       | Value | Unit  | Test Standard |
|---|-------|-------|---------------|
| <b>ISO Data</b>                             |       |       |               |
| <sup>[C]</sup> Relative permittivity, 100Hz | 3.8   | -     | IEC 62631-2-1 |
| <sup>[C]</sup> Relative permittivity, 1MHz  | 3.6   | -     | IEC 62631-2-1 |
| <sup>[C]</sup> Dissipation factor, 100Hz    | 90    | E-4   | IEC 62631-2-1 |
| <sup>[C]</sup> Dissipation factor, 1MHz     | 170   | E-4   | IEC 62631-2-1 |
| <sup>[C]</sup> Volume resistivity           | >1E13 | Ohm*m | IEC 62631-3-1 |
| <sup>[C]</sup> Surface resistivity          | >1E15 | Ohm   | IEC 62631-3-2 |
| <sup>[C]</sup> Electric strength            | 25    | kV/mm | IEC 60243-1   |
| <sup>[C]</sup> Comparative tracking index   | 250   | -     | IEC 60112     |

[C]: CAMPUS

| Other properties                   | Value | Unit              | Test Standard  |
|------------------------------------|-------|-------------------|----------------|
| <sup>[C]</sup> Water absorption    | 0.4   | %                 | Sim. to ISO 62 |
| <sup>[C]</sup> Humidity absorption | 0.1   | %                 | Sim. to ISO 62 |
| <sup>[C]</sup> Density             | 1440  | kg/m <sup>3</sup> | ISO 1183       |

[C]: CAMPUS

| Material specific properties    | Value | Unit  | Test Standard       |
|---------------------------------|-------|-------|---------------------|
| <b>ISO Data</b>                 |       |       |                     |
| <sup>[C]</sup> Viscosity number | 130   | cm³/g | ISO 307, 1157, 1628 |

[C]: CAMPUS

| Test specimen production                           | Value | Unit | Test Standard |
|--|-------|------|---------------|
| <b>ISO Data</b>                                    |       |      |               |
| <sup>[C]</sup> Injection Molding, melt temperature | 260   | °C   | ISO 294       |
| Injection Molding, mold temperature                | 80    | °C   | ISO 294       |

[C]: CAMPUS

| Processing Recommendation Injection Molding | Value     | Unit | Test Standard |
|---|-----------|------|---------------|
| Pre-drying - Temperature                    | 120       | °C   | -             |
| Pre-drying - Time                           | 4 - 8     | h    | -             |
| Processing humidity                         | ≤0.02     | %    | -             |
| Melt temperature                            | 250 - 270 | °C   | -             |
| Mold temperature                            | 80 - 100  | °C   | -             |

**Characteristics**

**Processing**

Injection Molding

**Features**

Low Warpage

**Delivery form**

Pellets

**Regional Availability**

North America, Europe, Asia Pacific, South and Central America, Near East/Africa

**Special Characteristics**

Heat stabilized or stable to heat

**Other text information**

**Injection molding**

**PREPROCESSING**

Residual moisture content: 0.00 - 0.02 %

Drying temperature circulating air dryer: 120 °C

Drying time circulating air dryer: 4 - 8 h

**PROCESSING**

Melt temperature (Tmin - Tmax): 250 - 270 °C

Mold temperature: 80 - 100 °C