

# Ultradur® B 4441 G5

Polybutylene Terephthalate

BASF Corporation

## Message:

Ultradur B 4441 G5 is a 25% glass reinforced injection molding PBT optimized for glow wire requirements. For parts requiring enhanced fire resistance. (Halogen and Antimon free)

### Applications

Typical applications include components for household appliances, connectors, and power switches.

| General Information                         |                                  |                        |             |
|---------------------------------------------|----------------------------------|------------------------|-------------|
| Filler / Reinforcement                      | Glass Fiber,25% Filler by Weight |                        |             |
| Features                                    | Antimony Free                    |                        |             |
|                                             | Flame Retardant                  |                        |             |
|                                             | Halogen Free                     |                        |             |
| Uses                                        | Appliance Components             |                        |             |
|                                             | Connectors                       |                        |             |
|                                             | Switches                         |                        |             |
| Agency Ratings                              | EC 1907/2006 (REACH)             |                        |             |
| RoHS Compliance                             | RoHS Compliant                   |                        |             |
| Processing Method                           | Injection Molding                |                        |             |
| Physical                                    | Nominal Value                    | Unit                   | Test Method |
| Density                                     | 1.53                             | g/cm <sup>3</sup>      | ISO 1183    |
| Melt Volume-Flow Rate (MVR) (275°C/2.16 kg) | 15.0                             | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage                           |                                  |                        | ISO 294-4   |
| Across Flow                                 | 1.2                              | %                      |             |
| Flow                                        | 0.44                             | %                      |             |
| Water Absorption                            |                                  |                        | ISO 62      |
| Saturation, 23°C                            | 0.40                             | %                      |             |
| Equilibrium, 23°C, 50% RH                   | 0.20                             | %                      |             |
| Viscosity Number (Reduced Viscosity)        | 105.0                            | ml/g                   | ISO 1628    |
| Mechanical                                  | Nominal Value                    | Unit                   | Test Method |
| Tensile Modulus (23°C)                      | 9800                             | MPa                    | ISO 527-2   |
| Tensile Stress (Break, 23°C)                | 110                              | MPa                    | ISO 527-2   |
| Tensile Strain (Break, 23°C)                | 2.3                              | %                      | ISO 527-2   |
| Flexural Modulus (23°C)                     | 10000                            | MPa                    | ISO 178     |
| Flexural Stress (23°C)                      | 180                              | MPa                    | ISO 178     |
| Impact                                      | Nominal Value                    | Unit                   | Test Method |
| Charpy Notched Impact Strength (23°C)       | 7.0                              | kJ/m <sup>2</sup>      | ISO 179     |

| Charpy Unnotched Impact Strength |               |                   | ISO 179     |
|----------------------------------|---------------|-------------------|-------------|
| -30°C                            | 47            | kJ/m <sup>2</sup> |             |
| 23°C                             | 45            | kJ/m <sup>2</sup> |             |
| Thermal                          | Nominal Value | Unit              | Test Method |
| Heat Deflection Temperature      |               |                   |             |
| 0.45 MPa, Unannealed             | 220           | °C                | ISO 75-2/B  |
| 1.8 MPa, Unannealed              | 210           | °C                | ISO 75-2/A  |
| Melting Temperature (DSC)        | 223           | °C                | ISO 3146    |
| RTI Elec (1.50 mm)               | 140           | °C                | UL 746      |
| Electrical                       | Nominal Value | Unit              | Test Method |
| Surface Resistivity              | > 1.0E+16     | ohms              | IEC 60093   |
| Volume Resistivity               | 1.0E+14       | ohms·cm           | IEC 60093   |
| Dielectric Constant (1 MHz)      | 3.60          |                   | IEC 60250   |
| Dissipation Factor (1 MHz)       | 0.014         |                   | IEC 60250   |
| Comparative Tracking Index       | 525           | V                 | IEC 60112   |
| Flammability                     | Nominal Value | Unit              | Test Method |
| Flame Rating                     |               |                   | UL 94       |
| 0.400 mm                         | V-0           |                   |             |
| 1.50 mm                          | 5VA           |                   |             |
| Injection                        | Nominal Value | Unit              |             |
| Drying Temperature               | 100 to 120    | °C                |             |
| Drying Time                      | 4.0           | hr                |             |
| Suggested Max Moisture           | 0.040         | %                 |             |
| Processing (Melt) Temp           | 250 to 270    | °C                |             |
| Mold Temperature                 | 60.0 to 100   | °C                |             |
| Injection Pressure               | 3.45 to 10.3  | MPa               |             |
| Injection Rate                   | Fast          |                   |             |
| Back Pressure                    | < 1.00        | MPa               |             |

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