

# Ultradur® B 4406 G6 Q113

Polybutylene Terephthalate + PET

BASF Corporation

## Message:

Injection molding grade with 30% glass fibers for parts requiring enhanced fire resistance (eg relay housings, plug-in connector, switch and lamp parts)

| General Information                                                  |                                             |               |             |
|----------------------------------------------------------------------|---------------------------------------------|---------------|-------------|
| UL YellowCard                                                        | E36632-531671                               | E41871-233790 |             |
| Filler / Reinforcement                                               | Glass Fiber,30% Filler by Weight            |               |             |
| Features                                                             | Flame Retardant                             |               |             |
| Uses                                                                 | Connectors                                  |               |             |
|                                                                      | Housings                                    |               |             |
|                                                                      | Switches                                    |               |             |
| Agency Ratings                                                       | EC 1907/2006 (REACH)                        |               |             |
| RoHS Compliance                                                      | RoHS Compliant                              |               |             |
| Appearance                                                           | Black                                       |               |             |
|                                                                      | Natural Color                               |               |             |
| Forms                                                                | Pellets                                     |               |             |
| Processing Method                                                    | Injection Molding                           |               |             |
| Multi-Point Data                                                     | Shear Modulus vs. Temperature (ISO 11403-1) |               |             |
| Resin ID (ISO 1043)                                                  | PBT FR(17)                                  |               |             |
| Physical                                                             | Nominal Value                               | Unit          | Test Method |
| Density                                                              | 1.68                                        | g/cm³         | ISO 1183    |
| Apparent Density                                                     | 0.70 to 0.80                                | g/cm³         |             |
| Melt Volume-Flow Rate (MVR) (275°C/2.16 kg)                          | 19.0                                        | cm³/10min     | ISO 1133    |
| Molding Shrinkage                                                    |                                             |               | ISO 294-4   |
| Across Flow                                                          | 0.94                                        | %             |             |
| Flow                                                                 | 0.28                                        | %             |             |
| Water Absorption                                                     |                                             |               | ISO 62      |
| Saturation, 23°C                                                     | 0.40                                        | %             |             |
| Equilibrium, 23°C, 50% RH                                            | 0.20                                        | %             |             |
| Viscosity Number <sup>1</sup>                                        | 108                                         | cm³/g         | ISO 307     |
| Mold Shrinkage <sup>2</sup>                                          |                                             |               |             |
| free, longitudinal                                                   | 0.30                                        | %             |             |
| free, transverse                                                     | 1.1                                         | %             |             |
| Flammability by Electrical Sources of Ignition - Method BH (4.00 mm) | BH2                                         |               | IEC 60707   |
| ISO Type                                                             | PBT, MFGHLNR, 11-120, GF30                  |               | ISO 7792    |

| Screw Speed                             | < 250         | mm/sec            |                      |
|-----------------------------------------|---------------|-------------------|----------------------|
| Mechanical                              | Nominal Value | Unit              | Test Method          |
| Tensile Modulus                         | 11500         | MPa               | ISO 527-2            |
| Tensile Stress (Break)                  | 135           | MPa               | ISO 527-2            |
| Tensile Strain (Break)                  | 2.1           | %                 | ISO 527-2            |
| Flexural Stress                         | 205           | MPa               | ISO 178              |
| Impact                                  | Nominal Value | Unit              | Test Method          |
| Charpy Notched Impact Strength (23°C)   | 8.0           | kJ/m <sup>2</sup> | ISO 179/1eA          |
| Charpy Unnotched Impact Strength (23°C) | 50            | kJ/m <sup>2</sup> | ISO 179/1eU          |
| Thermal                                 | Nominal Value | Unit              | Test Method          |
| Heat Deflection Temperature             |               |                   |                      |
| 0.45 MPa, Unannealed                    | 220           | °C                | ISO 75-2/B           |
| 1.8 MPa, Unannealed                     | 195           | °C                | ISO 75-2/A           |
| Melting Temperature                     | 223           | °C                | ISO 11357-3          |
| CLTE - Flow (23 to 80°C)                | 2.8E-5        | cm/cm/°C          | ISO 11359-2          |
| Electrical                              | Nominal Value | Unit              | Test Method          |
| Surface Resistivity                     | > 1.0E+15     | ohms              | IEC 60093            |
| Volume Resistivity                      | 1.0E+16       | ohms · cm         | IEC 60093            |
| Relative Permittivity                   |               |                   | IEC 60250            |
| 100 Hz                                  | 3.90          |                   |                      |
| 1 MHz                                   | 3.70          |                   |                      |
| Dissipation Factor                      |               |                   | IEC 60250            |
| 100 Hz                                  | 1.4E-3        |                   |                      |
| 1 MHz                                   | 0.016         |                   |                      |
| Comparative Tracking Index (Solution A) | 200           | V                 | IEC 60112            |
| Flammability                            | Nominal Value | Unit              | Test Method          |
| Flammability Classification             |               |                   | IEC 60695-11-10, -20 |
| 0.800 mm                                | V-0           |                   |                      |
| 1.60 mm                                 | V-0           |                   |                      |
| Injection                               | Nominal Value | Unit              |                      |
| Drying Temperature                      | 80.0 to 120   | °C                |                      |
| Drying Time                             | 4.0           | hr                |                      |
| Suggested Max Moisture                  | 0.040         | %                 |                      |
| Hopper Temperature                      | 80.0          | °C                |                      |
| Rear Temperature                        | 260           | °C                |                      |
| Middle Temperature                      | 265           | °C                |                      |
| Front Temperature                       | 270           | °C                |                      |
| Nozzle Temperature                      | 270           | °C                |                      |
| Processing (Melt) Temp                  | 250 to 280    | °C                |                      |
| Mold Temperature                        | 60.0 to 100   | °C                |                      |
| NOTE                                    |               |                   |                      |

- |    |                                                      |
|----|------------------------------------------------------|
| 1. | solution 0,005 g/ml Phenole/1,2<br>Dichlorbenzol 1:1 |
| 2. | plate with film gate 150*150*3<br>mm <sup>3</sup>    |

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