

# POCAN® BF 4409 000000

Polybutylene Terephthalate

LANXESS Corporation

## Message:

PBT, 7 % glass fibers, injection molding, flame retardant

| General Information                                          |                                                        |                        |             |
|--------------------------------------------------------------|--------------------------------------------------------|------------------------|-------------|
| UL YellowCard                                                | E245249-474053                                         |                        |             |
| Filler / Reinforcement                                       | Glass fiber reinforced material, 7.0% filler by weight |                        |             |
| Additive                                                     | Flame retardancy                                       |                        |             |
| Features                                                     | Flame retardancy                                       |                        |             |
| Agency Ratings                                               | EC 1907/2006 (REACH)                                   |                        |             |
| Processing Method                                            | Injection molding                                      |                        |             |
| Resin ID (ISO 1043)                                          | PBT GF FR (17)                                         |                        |             |
| Physical                                                     | Nominal Value                                          | Unit                   | Test Method |
| Density (23°C)                                               | 1.49                                                   | g/cm <sup>3</sup>      | ISO 1183    |
| Apparent Density                                             | 0.80                                                   | g/cm <sup>3</sup>      | ISO 60      |
| Melt Volume-Flow Rate (MVR) (260°C/2.16 kg)                  | 14.0                                                   | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage                                            |                                                        |                        | ISO 2577    |
| Vertical flow direction: 250°C, 2.00mm <sup>1</sup>          | 1.2                                                    | %                      | ISO 2577    |
| Vertical flow direction: 120°C, 4 hours, 2.00mm <sup>2</sup> | 0.10                                                   | %                      | ISO 2577    |
| Flow direction: 250°C, 2.00mm <sup>3</sup>                   | 1.3                                                    | %                      | ISO 2577    |
| Flow direction: 120°C, 4 hours, 2.00mm <sup>4</sup>          | 0.20                                                   | %                      | ISO 2577    |
| Water Absorption                                             |                                                        |                        | ISO 62      |
| Saturated, 23°C                                              | 0.35                                                   | %                      | ISO 62      |
| Equilibrium, 23°C, 50% RH                                    | 0.15                                                   | %                      | ISO 62      |
| Hardness                                                     | Nominal Value                                          | Unit                   | Test Method |
| Ball Indentation Hardness                                    | 155                                                    | MPa                    | ISO 2039-1  |
| Mechanical                                                   | Nominal Value                                          | Unit                   | Test Method |
| Tensile Modulus (23°C)                                       | 4700                                                   | MPa                    | ISO 527-2/1 |
| Tensile Stress (Break, 23°C)                                 | 80.0                                                   | MPa                    | ISO 527-2/5 |
| Tensile Strain (Break, 23°C)                                 | 4.4                                                    | %                      | ISO 527-2/5 |
| Flexural Modulus <sup>5</sup> (23°C)                         | 4200                                                   | MPa                    | ISO 178/A   |
| Flexural Stress                                              |                                                        |                        | ISO 178/A   |
| 3.5% strain, 23°C                                            | 120                                                    | MPa                    | ISO 178/A   |
| 23°C <sup>6</sup>                                            | 130                                                    | MPa                    | ISO 178/A   |
| Flexural Strain at Flexural Strength <sup>7</sup> (23°C)     | 4.9                                                    | %                      | ISO 178/A   |
| Electrolytical Corrosion (23°C)                              | A 1                                                    |                        | IEC 60426   |
| ISO Shortname                                                | PBT, GFHMR, 11-050, GF7                                |                        | ISO 7792    |

| Residual Moisture Content               | 0.0 - 0.020   | %                 | Karl Fisher    |
|-----------------------------------------|---------------|-------------------|----------------|
| Impact                                  | Nominal Value | Unit              | Test Method    |
| Charpy Notched Impact Strength          |               |                   | ISO 179/1eA    |
| -30°C                                   | < 10          | kJ/m <sup>2</sup> | ISO 179/1eA    |
| 23°C                                    | < 10          | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy Unnotched Impact Strength        |               |                   | ISO 179/1eU    |
| -30°C                                   | 45            | kJ/m <sup>2</sup> | ISO 179/1eU    |
| 23°C                                    | 45            | kJ/m <sup>2</sup> | ISO 179/1eU    |
| Notched Izod Impact                     |               |                   | ISO 180/1A     |
| -40°C                                   | < 10          | kJ/m <sup>2</sup> | ISO 180/1A     |
| -30°C                                   | < 10          | kJ/m <sup>2</sup> | ISO 180/1A     |
| 23°C                                    | < 10          | kJ/m <sup>2</sup> | ISO 180/1A     |
| Unnotched Izod Impact Strength          |               |                   | ISO 180/1U     |
| -30°C                                   | 40            | kJ/m <sup>2</sup> | ISO 180/1U     |
| 23°C                                    | 40            | kJ/m <sup>2</sup> | ISO 180/1U     |
| Thermal                                 | Nominal Value | Unit              | Test Method    |
| Heat Deflection Temperature             |               |                   |                |
| 0.45 MPa, not annealed                  | 205           | °C                | ISO 75-2/B     |
| 1.8 MPa, not annealed                   | 150           | °C                | ISO 75-2/A     |
| Vicat Softening Temperature             | 205           | °C                | ISO 306/B120   |
| Ball Pressure Test (211°C)              | Pass          |                   | IEC 60695-10-2 |
| Melting Temperature <sup>8</sup>        | 225           | °C                | ISO 11357-3    |
| Linear thermal expansion coefficient    |               |                   | ISO 11359-2    |
| Flow: 23 to 55°C                        | 6.0E-5        | cm/cm/°C          | ISO 11359-2    |
| Lateral: 23 to 55°C                     | 1.1E-4        | cm/cm/°C          | ISO 11359-2    |
| Electrical                              | Nominal Value | Unit              | Test Method    |
| Surface Resistivity                     | > 1.0E+16     | ohms              | IEC 60093      |
| Volume Resistivity (23°C)               | > 1.0E+14     | ohms · cm         | IEC 60093      |
| Dielectric Strength (23°C, 1.00 mm)     | 27            | kV/mm             | IEC 60243-1    |
| Relative Permittivity                   |               |                   | IEC 60250      |
| 23°C, 100 Hz                            | 3.60          |                   | IEC 60250      |
| 23°C, 1 MHz                             | 3.50          |                   | IEC 60250      |
| Dissipation Factor                      |               |                   | IEC 60250      |
| 23°C, 100 Hz                            | 2.0E-3        |                   | IEC 60250      |
| 23°C, 1 MHz                             | 0.019         |                   | IEC 60250      |
| Comparative Tracking Index (Solution A) | 225           | V                 | IEC 60112      |
| Flammability                            | Nominal Value | Unit              | Test Method    |
| Flame Rating (0.400 mm)                 | V-0           |                   | UL 94          |
| Glow Wire Flammability Index (0.400 mm) | 960           | °C                | IEC 60695-2-12 |
| Glow Wire Ignition Temperature          |               |                   | IEC 60695-2-13 |
| 0.800 mm                                | 725           | °C                | IEC 60695-2-13 |
| 1.60 mm                                 | 725           | °C                | IEC 60695-2-13 |

| 3.00 mm                                | 725           | °C   | IEC 60695-2-13 |
|----------------------------------------|---------------|------|----------------|
| Oxygen Index <sup>9</sup>              | 31            | %    | ISO 4589-2     |
| Injection                              | Nominal Value | Unit | Test Method    |
| Drying Temperature - Circulation Dryer | 120           | °C   |                |
| Drying Time - Circulation Dryer        | 4.0 - 8.0     | hr   |                |
| Processing (Melt) Temp                 | 240 - 260     | °C   |                |
| Mold Temperature                       | 80.0 - 100    | °C   |                |

#### NOTE

- |    |                             |
|----|-----------------------------|
| 1. | 60x60x2mm, 80°C MT, 600 bar |
| 2. | 60x60x2mm                   |
| 3. | 60x60x2mm, 80°C MT, 600 bar |
| 4. | 60x60x2mm                   |
| 5. | 2.0 mm/min                  |
| 6. | 2.0 mm/min                  |
| 7. | 2 mm/min                    |
| 8. | 10°C/min                    |
| 9. | Procedure A                 |

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