

# POCAN® B 4239 000000

Polybutylene Terephthalate

LANXESS Corporation

## Message:

PBT, 30 % glass fibers, injection molding, flame retardant

| General Information                                          |                                                       |                        |             |
|--------------------------------------------------------------|-------------------------------------------------------|------------------------|-------------|
| UL YellowCard                                                | E245249-474009                                        |                        |             |
| Filler / Reinforcement                                       | Glass fiber reinforced material, 30% filler by weight |                        |             |
| Additive                                                     | Flame retardancy                                      |                        |             |
| Features                                                     | Flame retardancy                                      |                        |             |
| Processing Method                                            | Injection molding                                     |                        |             |
| Physical                                                     | Nominal Value                                         | Unit                   | Test Method |
|                                                              | 1.67                                                  |                        |             |
| Density (23°C)                                               | 1.67                                                  | 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/5.0 kg)                   | 37.0                                                  | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage                                            |                                                       |                        | ISO 2577    |
| Vertical flow direction: 250°C, 2.00mm <sup>1</sup>          | 0.90                                                  | %                      | 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>                   | 0.30                                                  | %                      | ISO 2577    |
| Flow direction: 120°C, 4 hours, 2.00mm <sup>4</sup>          | 0.10                                                  | %                      | ISO 2577    |
| Hardness                                                     | Nominal Value                                         | Unit                   | Test Method |
| Ball Indentation Hardness                                    | 186                                                   | MPa                    | ISO 2039-1  |
| Mechanical                                                   | Nominal Value                                         | Unit                   | Test Method |
| Tensile Modulus                                              |                                                       |                        |             |
| 23°C                                                         | 10100                                                 | MPa                    | ASTM D638   |
| 23°C                                                         | 11500                                                 | MPa                    | ISO 527-2/1 |
| Tensile Strength                                             |                                                       |                        |             |
| Fracture, 23°C                                               | 119                                                   | MPa                    | ASTM D638   |
| Fracture, 23°C                                               | 125                                                   | MPa                    | ISO 527-2/5 |
| Tensile Elongation                                           |                                                       |                        |             |
| Fracture, 23°C                                               | 2.2                                                   | %                      | ASTM D638   |
| Fracture, 23°C                                               | 2.1                                                   | %                      | ISO 527-2/5 |
| Flexural Modulus                                             |                                                       |                        |             |
| 23°C                                                         | 8360                                                  | MPa                    | ASTM D790   |

|                                                          |                                                   |     |           |
|----------------------------------------------------------|---------------------------------------------------|-----|-----------|
| 23°C <sup>5</sup>                                        | 10500                                             | MPa | ISO 178/A |
| Flexural Strength                                        |                                                   |     |           |
| 23°C                                                     | 199                                               | MPa | ASTM D790 |
| 23°C <sup>6</sup>                                        | 200                                               | MPa | ISO 178/A |
| Flexural Strain at Flexural Strength (23°C) <sup>7</sup> | 2.6                                               | %   | ISO 178/A |
| Halving Interval                                         |                                                   |     | IEC 60216 |
| Electric Strength                                        | 12.0                                              | °C  | IEC 60216 |
| Tensile Impact Strength                                  | 8.4                                               | °C  | IEC 60216 |
| Tensile Strength                                         | 9.3                                               | °C  | IEC 60216 |
| Temperature index                                        |                                                   |     | IEC 60216 |
| Electric Strength, 20000 hr                              | 145                                               | °C  | IEC 60216 |
| Tensile Impact Strength, 20000 hr                        | 130                                               | °C  | IEC 60216 |
| Tensile Strength, 20000 hr                               | 155                                               | °C  | IEC 60216 |
| Electrolytical Corrosion (23°C)                          | A/B 1                                             |     | IEC 60426 |
| ISO Shortname                                            | PBT, GFHMR, 09-110, GF30; ISO 1043-PBT GF FR (17) |     | ISO 7792  |
|                                                          | 0.0 - 0.020                                       |     |           |

| Residual Moisture Content                  | 0.0           | %                 | 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                                      | 50            | kJ/m <sup>2</sup> | ISO 179/1eU |
| 23°C                                       | 50            | kJ/m <sup>2</sup> | ISO 179/1eU |
| Notched Izod Impact                        |               |                   | 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                                      | 45            | kJ/m <sup>2</sup> | ISO 180/1U  |
| 23°C                                       | 45            | kJ/m <sup>2</sup> | ISO 180/1U  |
| Multi-Axial Instrumented Impact Energy     |               |                   | ISO 6603-2  |
| -30°C                                      | 2.10          | J                 | ISO 6603-2  |
| 23°C                                       | 2.30          | J                 | ISO 6603-2  |
| Multi-Axial Instrumented Impact Peak Force |               |                   | ISO 6603-2  |
| -30°C                                      | 649           | N                 | ISO 6603-2  |
| 23°C                                       | 669           | N                 | ISO 6603-2  |
| Thermal                                    | Nominal Value | Unit              | Test Method |
| Heat Deflection Temperature                |               |                   |             |
| 0.45 MPa, not annealed                     | 220           | °C                | ISO 75-2/B  |

|                                         |                             |             |                    |
|-----------------------------------------|-----------------------------|-------------|--------------------|
| 1.8 MPa, not annealed                   | 200                         | °C          | ISO 75-2/A         |
| Vicat Softening Temperature             | 205                         | °C          | ISO 306/B120       |
| Ball Pressure Test (213°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                        | 2.0E-5                      | cm/cm/°C    | ISO 11359-2        |
| Lateral: 23 to 55°C                     | 9.0E-5                      | cm/cm/°C    | ISO 11359-2        |
| Thermal Conductivity (23°C)             | 0.24                        | W/m/K       | ISO 8302           |
| RTI Elec                                | 125                         | °C          | UL 746             |
| RTI Imp                                 | 110                         | °C          | UL 746             |
| RTI                                     | 140                         | °C          | UL 746             |
| <b>Electrical</b>                       | <b>Nominal Value</b>        | <b>Unit</b> | <b>Test Method</b> |
| Dielectric Strength (23°C, 1.00 mm)     | 35                          | kV/mm       | IEC 60243-1        |
| Relative Permittivity                   |                             |             | IEC 60250          |
| 23°C, 100 Hz                            | 3.90                        |             | IEC 60250          |
| 23°C, 1 MHz                             | 3.80                        |             | IEC 60250          |
| Comparative Tracking Index (Solution A) | 275                         | V           | IEC 60112          |
| <b>Flammability</b>                     | <b>Nominal Value</b>        | <b>Unit</b> | <b>Test Method</b> |
| Flame Rating                            |                             |             | UL 94              |
| 0.380 mm                                | V-0                         |             | UL 94              |
| 0.800 mm                                | V-0                         |             | UL 94              |
| Glow Wire Flammability Index (0.800 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>               | 32                          | %           | ISO 4589-2         |
| <b>Injection</b>                        | <b>Nominal Value</b>        | <b>Unit</b> | <b>Test Method</b> |
| Drying Temperature - Circulation Dryer  | 120                         | °C          |                    |
|                                         | 4.0 - 8.0                   |             |                    |
| Drying Time - Circulation Dryer         | 4.0                         | hr          |                    |
| Processing (Melt) Temp                  | 240 - 260                   | °C          |                    |
| Mold Temperature                        | 80.0 - 100                  | °C          |                    |
| <b>NOTE</b>                             |                             |             |                    |
| 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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