

# POCAN® BFN 4211 000000

Polybutylene Terephthalate

LANXESS GmbH

## Message:

PBT, 13 % glass fibers, injection molding, halogen free flame retardant

| General Information                                          |                                                       |                        |             |
|--------------------------------------------------------------|-------------------------------------------------------|------------------------|-------------|
| Filler / Reinforcement                                       | Glass fiber reinforced material, 13% filler by weight |                        |             |
| Additive                                                     | Flame retardancy                                      |                        |             |
| Features                                                     | Halogen-free                                          |                        |             |
|                                                              | Flame retardancy                                      |                        |             |
| Processing Method                                            | Injection molding                                     |                        |             |
| Resin ID (ISO 1043)                                          | PBT GF FR (30+40)                                     |                        |             |
| Physical                                                     | Nominal Value                                         | Unit                   | Test Method |
| Density (23°C)                                               | 1.43                                                  | g/cm <sup>3</sup>      | ISO 1183    |
| Melt Volume-Flow Rate (MVR) (260°C/2.16 kg)                  | 15.0                                                  | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage                                            |                                                       |                        | ISO 2577    |
| Vertical flow direction: 260°C, 2.00mm <sup>1</sup>          | 1.1                                                   | %                      | ISO 2577    |
| Vertical flow direction: 120°C, 4 hours, 2.00mm <sup>2</sup> | 0.10                                                  | %                      | ISO 2577    |
| Flow direction: 260°C, 2.00mm <sup>3</sup>                   | 0.60                                                  | %                      | ISO 2577    |
| Flow direction: 120°C, 4 hours, 2.00mm <sup>4</sup>          | 0.10                                                  | %                      | ISO 2577    |
| Mechanical                                                   | Nominal Value                                         | Unit                   | Test Method |
| Tensile Modulus (23°C)                                       | 6200                                                  | MPa                    | ISO 527-2/1 |
| Tensile Stress (Break, 23°C)                                 | 75.0                                                  | MPa                    | ISO 527-2/5 |
| Tensile Strain (Break, 23°C)                                 | 2.7                                                   | %                      | ISO 527-2/5 |
| Flexural Modulus <sup>5</sup> (23°C)                         | 6700                                                  | MPa                    | ISO 178/A   |
| Flexural Stress <sup>6</sup> (23°C)                          | 125                                                   | MPa                    | ISO 178/A   |
| Flexural Strain at Flexural Strength <sup>7</sup> (23°C)     | 2.7                                                   | %                      | ISO 178/A   |
| ISO Shortname                                                | PBT, GFHMR, 09-060, GF13                              |                        | ISO 7792    |
| Residual Moisture Content                                    | 0.0 - 0.020                                           | %                      | Karl Fisher |
| Impact                                                       | Nominal Value                                         | Unit                   | Test Method |
| Charpy Notched Impact Strength (23°C)                        | < 10                                                  | kJ/m <sup>2</sup>      | ISO 179/1eA |
| Charpy Unnotched Impact Strength                             |                                                       |                        | ISO 179/1eU |
| -30°C                                                        | 25                                                    | kJ/m <sup>2</sup>      | ISO 179/1eU |
| 23°C                                                         | 30                                                    | kJ/m <sup>2</sup>      | ISO 179/1eU |
| Notched Izod Impact (23°C)                                   | < 10                                                  | kJ/m <sup>2</sup>      | ISO 180/1A  |
| Unnotched Izod Impact Strength                               |                                                       |                        | ISO 180/1U  |
| -30°C                                                        | 23                                                    | kJ/m <sup>2</sup>      | ISO 180/1U  |

| 23°C                                   | 25            | kJ/m <sup>2</sup> | ISO 180/1U     |
|----------------------------------------|---------------|-------------------|----------------|
| 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                  | 190           | °C                | ISO 75-2/A     |
| Vicat Softening Temperature            | 206           | °C                | ISO 306/B50    |
| Ball Pressure Test (215°C)             | Pass          |                   | IEC 60695-10-2 |
| Melting Temperature <sup>8</sup>       | 220           | °C                | ISO 11357-3    |
| Linear thermal expansion coefficient   |               |                   | ISO 11359-2    |
| Flow: 23 to 55°C                       | 4.0E-5        | cm/cm/°C          | ISO 11359-2    |
| Lateral: 23 to 55°C                    | 9.0E-5        | cm/cm/°C          | ISO 11359-2    |
| Electrical                             | Nominal Value | Unit              | Test Method    |
| Volume Resistivity (23°C)              | 6.6E+15       | ohms · cm         | IEC 60093      |
| Dielectric Strength (23°C, 1.00 mm)    | 33            | kV/mm             | IEC 60243-1    |
| Comparative Tracking Index (CTI)       | PLC 0         |                   | UL 746         |
| Flammability                           | Nominal Value | Unit              | Test Method    |
| Flame Rating                           |               |                   | UL 94          |
| 0.400 mm                               | V-0           |                   | UL 94          |
| 0.750 mm                               | V-0           |                   | UL 94          |
|                                        | V-0           |                   |                |
| 1.50 mm                                | 5VA           |                   | UL 94          |
|                                        | V-0           |                   |                |
| 3.00 mm                                | 5VA           |                   | UL 94          |
| Glow Wire Flammability Index           |               |                   | IEC 60695-2-12 |
| 0.400 mm                               | 960           | °C                | IEC 60695-2-12 |
| 0.750 mm                               | 960           | °C                | IEC 60695-2-12 |
| 1.50 mm                                | 960           | °C                | IEC 60695-2-12 |
| 3.00 mm                                | 960           | °C                | IEC 60695-2-12 |
| Glow Wire Ignition Temperature         |               |                   | IEC 60695-2-13 |
| 0.400 mm                               | 775           | °C                | IEC 60695-2-13 |
| 0.750 mm                               | 775           | °C                | IEC 60695-2-13 |
| 1.50 mm                                | 775           | °C                | IEC 60695-2-13 |
| 3.00 mm                                | 775           | °C                | IEC 60695-2-13 |
| Injection                              | Nominal Value | Unit              | Test Method    |
| Drying Temperature - Circulation Dryer | 120           | °C                |                |
| Drying Time - Circulation Dryer        | 4.0 - 8.0     | hr                |                |
| Processing (Melt) Temp                 | 250 - 270     | °C                |                |

|                  |                             |    |
|------------------|-----------------------------|----|
| Mold Temperature | 70.0 - 90.0                 | °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                    |    |

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