

# POCAN® S 1517 000000

Polybutylene Terephthalate

LANXESS GmbH

## Message:

PBT, non-reinforced, injection molding, extrusion, improved impact strength

| General Information |                        |
|---------------------|------------------------|
| UL YellowCard       | E245249-474058         |
| Features            | Good Impact Resistance |
| Processing Method   | Extrusion              |
|                     | Injection Molding      |

|                  |                                             |
|------------------|---------------------------------------------|
| Multi-Point Data | Isochronous Stress vs. Strain (ISO 11403-1) |
|                  | Isothermal Stress vs. Strain (ISO 11403-1)  |
|                  | Secant Modulus vs. Strain (ISO 11403-1)     |
|                  | Shear Modulus vs. Temperature (ISO 11403-1) |
|                  | Viscosity vs. Shear Rate (ISO 11403-2)      |

| Physical                                        | Nominal Value | Unit                   | Test Method  |
|-------------------------------------------------|---------------|------------------------|--------------|
| Density (23°C)                                  | 1.24          | g/cm <sup>3</sup>      | ISO 1183     |
| Apparent Density                                | 0.70          | g/cm <sup>3</sup>      | ISO 60       |
| Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)      | 27.0          | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage                               |               |                        | ISO 2577     |
| Across Flow : 260°C, 2.00 mm <sup>1</sup>       | 2.0           | %                      |              |
| Across Flow : 110°C, 4 hr, 2.00 mm <sup>2</sup> | 0.30          | %                      |              |
| Flow : 260°C, 2.00 mm <sup>3</sup>              | 2.0           | %                      |              |
| Flow : 120°C, 4 hr, 2.00 mm <sup>4</sup>        | 0.30          | %                      |              |
| Water Absorption                                |               |                        | ISO 62       |
| Saturation, 23°C                                | 0.40          | %                      |              |
| Equilibrium, 23°C, 50% RH                       | 0.20          | %                      |              |
| Hardness                                        | Nominal Value | Unit                   | Test Method  |
| Ball Indentation Hardness                       | 90.0          | MPa                    | ISO 2039-1   |
| Mechanical                                      | Nominal Value | Unit                   | Test Method  |
| Tensile Modulus (23°C)                          | 1900          | MPa                    | ISO 527-2/1  |
| Tensile Stress (Yield, 23°C)                    | 45.0          | MPa                    | ISO 527-2/50 |
| Tensile Strain (Yield, 23°C)                    | 5.1           | %                      | ISO 527-2/50 |
| Nominal Tensile Strain at Break (23°C)          | > 50          | %                      | ISO 527-2/50 |
| Tensile Creep Modulus                           |               |                        | ISO 899-1    |
| 1 hr                                            | 1650          | MPa                    |              |

| 1000 hr                                                  | 1000              | MPa               |                |
|----------------------------------------------------------|-------------------|-------------------|----------------|
| Flexural Modulus <sup>5</sup> (23°C)                     | 2000              | MPa               | ISO 178/A      |
| Flexural Stress                                          |                   |                   | ISO 178/A      |
| 3.5% Strain, 23°C                                        | 60.0              | MPa               |                |
| 23°C <sup>6</sup>                                        | 65.0              | MPa               |                |
| Flexural Strain at Flexural Strength <sup>7</sup> (23°C) | 5.8               | %                 | ISO 178/A      |
| Electrolytical Corrosion (23°C)                          | A 1               |                   | IEC 60426      |
| ISO Shortname                                            | PBT, GHPR, 11-020 |                   | ISO 7792       |
| Residual Moisture Content                                | 0.0 to 0.020      | %                 | Karl Fisher    |
| Impact                                                   | Nominal Value     | Unit              | Test Method    |
| Charpy Notched Impact Strength                           |                   |                   | ISO 179/1eA    |
| -30°C                                                    | 13                | kJ/m <sup>2</sup> |                |
| 23°C                                                     | 50                | kJ/m <sup>2</sup> |                |
| Charpy Unnotched Impact Strength                         |                   |                   | ISO 179/1eU    |
| -30°C                                                    | No Break          |                   |                |
| 23°C                                                     | No Break          |                   |                |
| Notched Izod Impact Strength                             |                   |                   | ISO 180/1A     |
| -30°C                                                    | 13                | kJ/m <sup>2</sup> |                |
| 23°C                                                     | 45                | kJ/m <sup>2</sup> |                |
| Unnotched Izod Impact Strength                           |                   |                   | ISO 180/1U     |
| -30°C                                                    | No Break          |                   |                |
| 23°C                                                     | No Break          |                   |                |
| Multi-Axial Instrumented Impact Energy                   |                   |                   | ISO 6603-2     |
| -30°C, Energy to Peak Force                              | 100               | J                 |                |
| 23°C, Energy to Peak Force                               | 110               | J                 |                |
| Thermal                                                  | Nominal Value     | Unit              | Test Method    |
| Heat Deflection Temperature                              |                   |                   |                |
| 0.45 MPa, Unannealed                                     | 115               | °C                | ISO 75-2/B     |
| 1.8 MPa, Unannealed                                      | 55.0              | °C                | ISO 75-2/A     |
| Vicat Softening Temperature                              | 140               | °C                | ISO 306/B120   |
| Ball Pressure Test (185°C)                               | Pass              |                   | IEC 60695-10-2 |
| Melting Temperature <sup>8</sup>                         | 225               | °C                | ISO 11357-3    |
| CLTE                                                     |                   |                   | ISO 11359-2    |
| Flow : 23 to 55°C                                        | 1.3E-4            | cm/cm/°C          |                |
| Transverse : 23 to 55°C                                  | 1.3E-4            | cm/cm/°C          |                |
| Thermal Conductivity (23°C)                              | 0.22              | W/m/K             | ISO 8302       |
| Electrical                                               | Nominal Value     | Unit              | Test Method    |
| Surface Resistivity                                      | > 1.0E+15         | ohms              | IEC 60093      |
| Volume Resistivity (23°C)                                | > 1.0E+15         | ohms · cm         | IEC 60093      |
| Electric Strength (23°C, 1.00 mm)                        | 30                | kV/mm             | IEC 60243-1    |
| Relative Permittivity                                    |                   |                   | IEC 60250      |
| 23°C, 100 Hz                                             | 3.20              |                   |                |

| 23°C, 1 MHz                             | 3.10                        |      |                |
|-----------------------------------------|-----------------------------|------|----------------|
| Dissipation Factor                      |                             |      | IEC 60250      |
| 23°C, 100 Hz                            | 2.0E-3                      |      |                |
| 23°C, 1 MHz                             | 0.019                       |      |                |
| Comparative Tracking Index (Solution A) | 600                         | V    | IEC 60112      |
| Flammability                            | Nominal Value               | Unit | Test Method    |
| Flame Rating                            |                             |      | UL 94          |
| 0.800 mm                                | HB                          |      |                |
| 1.60 mm                                 | HB                          |      |                |
| Glow Wire Flammability Index (2.00 mm)  | 650                         | °C   | IEC 60695-2-12 |
| Oxygen Index <sup>9</sup>               | 22                          | %    | ISO 4589-2     |
| Injection                               | Nominal Value               | Unit | Test Method    |
| Drying Temperature - Circulation Dryer  | 120                         | °C   |                |
| Drying Time - Circulation Dryer         | 4.0 to 8.0                  | hr   |                |
| Processing (Melt) Temp                  | 250 to 270                  | °C   |                |
| Mold Temperature                        | 80.0 to 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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