

# POCAN® B 1505 000000

Polybutylene Terephthalate

LANXESS GmbH

Message:

PBT, non-reinforced, injection molding,Extrusion

| General Information                                          |                                              |           |             |
|--------------------------------------------------------------|----------------------------------------------|-----------|-------------|
| UL YellowCard                                                | E245249-100603183                            |           |             |
| Agency Ratings                                               | EC 1907/2006 (REACH)                         |           |             |
| Processing Method                                            | Extrusion                                    |           |             |
|                                                              | Injection molding                            |           |             |
| Multi-Point Data                                             | Creep Modulus vs. Time (ISO 11403-1)         |           |             |
|                                                              | 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)  |           |             |
|                                                              | Specific Volume vs Temperature (ISO 11403-2) |           |             |
|                                                              | Viscosity vs. Shear Rate (ISO 11403-2)       |           |             |
| Physical                                                     | Nominal Value                                | Unit      | Test Method |
| Density (23°C)                                               | 1.31                                         | g/cm³     | ISO 1183    |
| Apparent Density                                             | 0.80                                         | g/cm³     | ISO 60      |
| Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)                  | 16.0                                         | cm³/10min | ISO 1133    |
| Molding Shrinkage                                            |                                              |           | ISO 294-4   |
| Vertical flow direction: 250°C, 2.00mm <sup>1</sup>          | 2.1                                          | %         | ISO 294-4   |
| Vertical flow direction: 120°C, 2 hours, 2.00mm <sup>2</sup> | 0.20                                         | %         | ISO 294-4   |
| Flow direction: 250°C, 2.00mm <sup>3</sup>                   | 2.1                                          | %         | ISO 294-4   |
| Flow direction: 120°C, 2 hours, 2.00mm <sup>4</sup>          | 0.20                                         | %         | ISO 294-4   |
| Water Absorption                                             |                                              |           | ISO 62      |
| Saturated, 23°C                                              | 0.50                                         | %         | ISO 62      |
| Equilibrium, 23°C, 50% RH                                    | 0.20                                         | %         | ISO 62      |
| Hardness                                                     | Nominal Value                                | Unit      | Test Method |
| Ball Indentation Hardness                                    | 120                                          | MPa       | ISO 2039-1  |
| Mechanical                                                   | Nominal Value                                | Unit      | Test Method |
| Tensile Modulus                                              |                                              |           |             |
| 23°C                                                         | 2470                                         | MPa       | ASTM D638   |
| 23°C                                                         | 2700                                         | MPa       | ISO 527-2/1 |
| Tensile Stress                                               |                                              |           |             |

|                                                          |                   |                   |              |
|----------------------------------------------------------|-------------------|-------------------|--------------|
| Yield, 23°C                                              | 60.0              | MPa               | ISO 527-2/50 |
| Fracture, 23°C                                           | 33.8              | MPa               | ASTM D638    |
| Tensile Strain                                           |                   |                   |              |
| Yield, 23°C                                              | 9.0               | %                 | ISO 527-2/50 |
| Fracture, 23°C                                           | 29                | %                 | ASTM D638    |
| Nominal Tensile Strain at Break (23°C)                   | > 15              | %                 | ISO 527-2/50 |
| Tensile Creep Modulus                                    |                   |                   |              |
| 1 hr                                                     | 2200              | MPa               | ISO 899-1    |
| 1000 hr                                                  | 1300              | MPa               | ISO 899-1    |
| Flexural Modulus                                         |                   |                   |              |
| 23°C                                                     | 2090              | MPa               | ASTM D790    |
| 23°C <sup>5</sup>                                        | 2650              | MPa               | ISO 178/A    |
| Flexural Strength                                        |                   |                   |              |
| 23°C                                                     | 85.5              | MPa               | ASTM D790    |
| 3.5% strain <sup>6</sup>                                 | 80.0              | MPa               | ISO 178/A    |
| 23°C <sup>7</sup>                                        | 90.0              | MPa               | ISO 178      |
| Flexural Strain at Flexural Strength (23°C) <sup>8</sup> | 6.0               | %                 |              |
| Halving Interval                                         |                   |                   |              |
| -- <sup>9</sup>                                          | 12.6              | °C                | IEC 60216    |
| -- <sup>10</sup>                                         | 12.0              | °C                | IEC 60216    |
| -- <sup>11</sup>                                         | 12.6              | °C                | IEC 60216    |
| Temperature index <sup>12</sup>                          |                   |                   |              |
| Electric Strength                                        | 150               |                   | IEC 60216    |
| Tensile Impact Strength                                  | 135               |                   | IEC 60216    |
| Tensile Strength                                         | 150               |                   | IEC 60216    |
| Burning Behavior <sup>13</sup>                           | passed            |                   | ISO 3795     |
| Electrolytical Corrosion                                 | A 1               |                   | IEC 60426    |
| ISO Shortname                                            | PBT, GHMR, 11-030 |                   | ISO 7792     |
| Residual Moisture Content                                | 0.0 - 0.020       | %                 | Karl Fisher  |
| Films                                                    | Nominal Value     | Unit              | Test Method  |
| Film Puncture Energy                                     |                   |                   |              |
| -- <sup>14</sup>                                         | 32.0              | J                 | ISO 6603-2   |
| -- <sup>15</sup>                                         | 22.0              | J                 | ISO 6603-2   |
| Film Puncture Force                                      |                   |                   |              |
| -- <sup>16</sup>                                         | 5190              | N                 | ISO 6603-2   |
| -- <sup>17</sup>                                         | 3650              | N                 | ISO 6603-2   |
| Impact                                                   | Nominal Value     | Unit              | Test Method  |
| Charpy Notched Impact Strength                           |                   |                   |              |
| -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                         |                   |                   |              |
| -30°C                                                    | 180               | kJ/m <sup>2</sup> | ISO 179/1eU  |

| 23°C                                    | No Break                  |                   | 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                                   | 150                       | kJ/m <sup>2</sup> | ISO 180/1U     |
| 23°C                                    | No Break                  |                   | ISO 180/1U     |
| Thermal                                 | Nominal Value             | Unit              | Test Method    |
| Heat Deflection Temperature             |                           |                   |                |
| 0.45 MPa, not annealed                  | 150                       | °C                | ISO 75-2/B     |
| 1.8 MPa, not annealed                   | 60.0                      | °C                | ISO 75-2/A     |
| 8.0 MPa, not annealed                   | 45.0                      | °C                | ISO 75-2/C     |
| Ball Pressure Test (190°C)              | Pass                      |                   | IEC 60695-10-2 |
| Melting Temperature <sup>18</sup>       | 225                       | °C                | ISO 11357-3    |
| Linear thermal expansion coefficient    |                           |                   | ISO 11359-2    |
| Flow: 23 to 55°C                        | 1.2E-4                    | cm/cm/°C          | ISO 11359-2    |
| Lateral: 23 to 55°C                     | 1.2E-4                    | cm/cm/°C          | ISO 11359-2    |
| Thermal Conductivity (23°C)             | 0.25                      | W/m/K             | ISO 8302       |
| RTI Elec                                | 140                       | °C                | UL 746         |
| RTI Imp                                 | 125                       | °C                | UL 746         |
| RTI                                     | 140                       | °C                | UL 746         |
| Electrical                              | Nominal Value             | Unit              | Test Method    |
| Dielectric Strength (23°C, 1.00 mm)     | 30                        | kV/mm             | IEC 60243-1    |
| Relative Permittivity                   |                           |                   | IEC 60250      |
| 23°C, 100 Hz                            | 3.40                      |                   | IEC 60250      |
| 23°C, 1 MHz                             | 3.20                      |                   | IEC 60250      |
| Comparative Tracking Index (Solution A) | 600                       | V                 | IEC 60112      |
| Flammability                            | Nominal Value             | Unit              | Test Method    |
| Flame Rating                            |                           |                   | UL 94          |
| 0.800 mm                                | HB                        |                   | UL 94          |
| 1.60 mm                                 | HB                        |                   | UL 94          |
| Glow Wire Flammability Index (2.00 mm)  | 750                       | °C                | IEC 60695-2-12 |
| Oxygen Index <sup>19</sup>              | 24                        | %                 | 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                  | 250 - 260                 | °C                |                |
| Mold Temperature                        | 80.0 - 100                | °C                |                |
| NOTE                                    |                           |                   |                |
| 1.                                      | 60x60x2; WZ 80°C; 600 Bar |                   |                |
| 2.                                      | 60x60x2                   |                   |                |

|     |                             |
|-----|-----------------------------|
| 3.  | 60x60x2; WZ 80°C; 600 Bar   |
| 4.  | 60x60x2                     |
| 5.  | 2.0 mm/min                  |
| 6.  | 2.0 mm/min                  |
| 7.  | 2.0 mm/min                  |
| 8.  | Pull Rate: 2 mm/min; 50% RH |
| 9.  | Electric Strength           |
| 10. | Tensile Impact Strength     |
| 11. | Tensile Strength            |
| 12. | 20000 h                     |
| 13. | US-FMVSS302                 |
| 14. | -30°C                       |
| 15. | 23°C                        |
| 16. | -30°C                       |
| 17. | 23°C                        |
| 18. | 10°C/min                    |
| 19. | Procedure A                 |

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