

# POCAN® B 1305 000000

Polybutylene Terephthalate

LANXESS GmbH

## Message:

PBT, non-reinforced, injection molding

| General Information                                          |                      |                        |              |
|--------------------------------------------------------------|----------------------|------------------------|--------------|
| UL YellowCard                                                | E245249-474010       |                        |              |
| Agency Ratings                                               | EC 1907/2006 (REACH) |                        |              |
| Processing Method                                            | Injection molding    |                        |              |
| Physical                                                     | Nominal Value        | Unit                   | Test Method  |
| Density (23°C)                                               | 1.31                 | g/cm <sup>3</sup>      | ISO 1183     |
| Apparent Density                                             | 0.80                 | g/cm <sup>3</sup>      | ISO 60       |
| Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)                  | 47.0                 | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage                                            |                      |                        | ISO 2577     |
| Vertical flow direction: 250°C, 2.00mm <sup>1</sup>          | 2.0                  | %                      | ISO 2577     |
| Vertical flow direction: 120°C, 4 hours, 2.00mm <sup>2</sup> | 0.30                 | %                      | ISO 2577     |
| Flow direction: 250°C, 2.00mm <sup>3</sup>                   | 2.0                  | %                      | ISO 2577     |
| Flow direction: 120°C, 4 hours, 2.00mm <sup>4</sup>          | 0.30                 | %                      | ISO 2577     |
| 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                                                         | 2660                 | MPa                    | ASTM D638    |
| 23°C                                                         | 2800                 | MPa                    | ISO 527-2/1  |
| Tensile Strength                                             |                      |                        |              |
| Yield, 23°C                                                  | 52.4                 | MPa                    | ASTM D638    |
| Yield, 23°C                                                  | 60.0                 | MPa                    | ISO 527-2/50 |
| Tensile Strain (Yield, 23°C)                                 | 9.0                  | %                      | ISO 527-2/50 |
| Nominal Tensile Strain at Break (23°C)                       | > 10                 | %                      | ISO 527-2/50 |
| Tensile Creep Modulus                                        |                      |                        | ISO 899-1    |
| 1 hr                                                         | 2400                 | MPa                    | ISO 899-1    |
| 1000 hr                                                      | 1400                 | MPa                    | ISO 899-1    |
| Flexural Modulus                                             |                      |                        |              |
| 23°C                                                         | 2280                 | MPa                    | ASTM D790    |
| 23°C <sup>5</sup>                                            | 2700                 | MPa                    | ISO 178/A    |

|                                                                     |                   |                   |                |
|---------------------------------------------------------------------|-------------------|-------------------|----------------|
| Flexural Strength                                                   |                   |                   |                |
| 23°C                                                                | 84.8              | MPa               | ASTM D790      |
| 3.5% strain, 23°C                                                   | 80.0              | MPa               | ISO 178/A      |
| 23°C <sup>6</sup>                                                   | 90.0              | MPa               | ISO 178/A      |
| Flexural Strain at Flexural Strength (23°C) <sup>7</sup>            | 6.0               | %                 | ISO 178/A      |
| Halving Interval                                                    |                   |                   | IEC 60216      |
| Electric Strength                                                   | 12.6              | °C                | IEC 60216      |
| Tensile Impact Strength                                             | 12.0              | °C                | IEC 60216      |
| Tensile Strength                                                    | 12.6              | °C                | IEC 60216      |
| Temperature index                                                   |                   |                   | IEC 60216      |
| Electric Strength, 20000 hr                                         | 150               | °C                | IEC 60216      |
| Tensile Impact Strength, 20000 hr                                   | 135               | °C                | IEC 60216      |
| Tensile Strength, 20000 hr                                          | 150               | °C                | IEC 60216      |
| Burning Behavior <sup>8</sup>                                       | passed            |                   | ISO 3795       |
| Electrolytical Corrosion (23°C)                                     | A 1               |                   | IEC 60426      |
| ISO Shortname                                                       | PBT, GHMR, 09-030 |                   | 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                                                               | 150               | kJ/m <sup>2</sup> | ISO 179/1eU    |
| 23°C                                                                | 180               | 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     |
| Unnotched Izod Impact Strength                                      |                   |                   | ISO 180/1U     |
| -30°C                                                               | 90                | kJ/m <sup>2</sup> | ISO 180/1U     |
| 23°C                                                                | 130               | kJ/m <sup>2</sup> | ISO 180/1U     |
| Multi-Axial Instrumented Impact Energy (23°C, Energy to Peak Force) | 100               | J                 | ISO 6603-2     |
| Multi-Axial Instrumented Impact Peak Force (-30°C)                  | 2240              | N                 | ISO 6603-2     |
| Thermal                                                             | Nominal Value     | Unit              | Test Method    |
| Heat Deflection Temperature                                         |                   |                   |                |
| 0.45 MPa, not annealed                                              | 155               | °C                | ISO 75-2/B     |
| 1.8 MPa, not annealed                                               | 65.0              | °C                | ISO 75-2/A     |
| 8.0 MPa, not annealed                                               | 45.0              | °C                | ISO 75-2/C     |
| Vicat Softening Temperature                                         | 185               | °C                | ISO 306/B120   |
| Ball Pressure Test (190°C)                                          | Pass              |                   | IEC 60695-10-2 |
| Melting Temperature <sup>9</sup>                                    | 225               | °C                | ISO 11357-3    |
| Linear thermal expansion coefficient                                |                   |                   | ISO 11359-2    |

|                                         |                             |             |                    |
|-----------------------------------------|-----------------------------|-------------|--------------------|
| Flow: 23 to 55°C                        | 1.1E-4                      | cm/cm/°C    | ISO 11359-2        |
| Lateral: 23 to 55°C                     | 1.1E-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             |
| <b>Electrical</b>                       | <b>Nominal Value</b>        | <b>Unit</b> | <b>Test Method</b> |
| Surface Resistivity                     | > 1.0E+15                   | ohms        | IEC 60093          |
| Volume Resistivity (23°C)               | > 1.0E+15                   | ohms·cm     | IEC 60093          |
| 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          |
| Dissipation Factor                      |                             |             | IEC 60250          |
| 23°C, 100 Hz                            | 1.5E-3                      |             | IEC 60250          |
| 23°C, 1 MHz                             | 0.019                       |             | IEC 60250          |
| Comparative Tracking Index (Solution A) | 600                         | V           | IEC 60112          |
| <b>Flammability</b>                     | <b>Nominal Value</b>        | <b>Unit</b> | <b>Test Method</b> |
| 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>10</sup>              | 24                          | %           | ISO 4589-2         |
| <b>Injection</b>                        | <b>Nominal Value</b>        | <b>Unit</b> | <b>Test Method</b> |
| 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          |                    |
| <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.                                      | US-FMVSS302                 |             |                    |
| 9.                                      | 10°C/min                    |             |                    |
| 10.                                     | Procedure A                 |             |                    |

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## Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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