

# Durethan® BKV 25 H2.0 LT 904040

Polyamide 6

LANXESS GmbH

## Message:

PA 6, 25 % glass fibers, injection molding, heat-aging stabilized, laser-transparent, IR-transparent black pigmentation

| General Information                                      |       |                                  |                   |             |
|----------------------------------------------------------|-------|----------------------------------|-------------------|-------------|
| UL YellowCard                                            |       | E245249-473584                   |                   |             |
| Filler / Reinforcement                                   |       | Glass Fiber,25% Filler by Weight |                   |             |
| Additive                                                 |       | Heat Stabilizer                  |                   |             |
| Features                                                 |       | Heat Stabilized                  |                   |             |
| Processing Method                                        |       | Injection Molding                |                   |             |
| Physical                                                 | Dry   | Conditioned                      | Unit              | Test Method |
| Density (23°C)                                           | 1.32  | --                               | g/cm <sup>3</sup> | ISO 1183    |
| Apparent Density                                         | 0.70  | --                               | g/cm <sup>3</sup> | ISO 60      |
| Molding Shrinkage                                        |       |                                  |                   | ISO 2577    |
| Across Flow : 280°C, 3.00 mm <sup>1</sup>                | 0.88  | --                               | %                 |             |
| Across Flow : 120°C, 4 hr, 3.00 mm <sup>2</sup>          | 0.14  | --                               | %                 |             |
| Flow : 280°C, 3.00 mm <sup>3</sup>                       | 0.21  | --                               | %                 |             |
| Flow : 120°C, 4 hr, 3.00 mm <sup>4</sup>                 | 0.040 | --                               | %                 |             |
| Water Absorption                                         |       |                                  |                   | ISO 62      |
| Saturation, 23°C                                         | 7.5   | --                               | %                 |             |
| Equilibrium, 23°C, 50% RH                                | 2.2   | --                               | %                 |             |
| Hardness                                                 | Dry   | Conditioned                      | Unit              | Test Method |
| Ball Indentation Hardness                                | 190   | 90.0                             | MPa               | ISO 2039-1  |
| Mechanical                                               | Dry   | Conditioned                      | Unit              | Test Method |
| Tensile Modulus (23°C)                                   | 8400  | 5100                             | MPa               | ISO 527-2/1 |
| Tensile Stress (Break, 23°C)                             | 160   | 90.0                             | MPa               | ISO 527-2/5 |
| Tensile Strain (Break, 23°C)                             | 3.0   | 6.0                              | %                 | ISO 527-2/5 |
| Tensile Creep Modulus                                    |       |                                  |                   | ISO 899-1   |
| 1 hr                                                     | --    | 4500                             | MPa               |             |
| 1000 hr                                                  | --    | 3500                             | MPa               |             |
| Flexural Modulus <sup>5</sup> (23°C)                     | 7200  | 4200                             | MPa               | ISO 178/A   |
| Flexural Stress                                          |       |                                  |                   | ISO 178/A   |
| 3.5% Strain,23°C                                         | 230   | 120                              | MPa               |             |
| 23°C <sup>6</sup>                                        | 250   | 145                              | MPa               |             |
| Flexural Strain at Flexural Strength <sup>7</sup> (23°C) | 5.0   | 6.0                              | %                 | ISO 178/A   |

|                                            |                         |             |                   |              |
|--------------------------------------------|-------------------------|-------------|-------------------|--------------|
| Burning Behavior <sup>8</sup>              | passed                  | --          |                   | ISO 3795     |
| ISO Shortname                              | PA 6, GHR, 14-080, GF25 | --          |                   | ISO 1874     |
| Residual Moisture Content                  | 0.030 to 0.12           |             | %                 | Karl Fisher  |
| Impact                                     | Dry                     | Conditioned | Unit              | Test Method  |
| Charpy Notched Impact Strength             |                         |             |                   | ISO 179/1eA  |
| -40°C                                      | < 10                    | < 10        | kJ/m <sup>2</sup> |              |
| -30°C                                      | < 10                    | < 10        | kJ/m <sup>2</sup> |              |
| 23°C                                       | < 10                    | 10          | kJ/m <sup>2</sup> |              |
| Charpy Unnotched Impact Strength           |                         |             |                   | ISO 179/1eU  |
| -30°C                                      | 45                      | 45          | kJ/m <sup>2</sup> |              |
| 23°C                                       | 60                      | 80          | kJ/m <sup>2</sup> |              |
| Notched Izod Impact Strength               |                         |             |                   | ISO 180/1A   |
| -40°C                                      | < 10                    | < 10        | kJ/m <sup>2</sup> |              |
| -30°C                                      | < 10                    | < 10        | kJ/m <sup>2</sup> |              |
| Unnotched Izod Impact Strength             |                         |             |                   | ISO 180/1U   |
| -30°C                                      | 60                      | 65          | kJ/m <sup>2</sup> |              |
| 23°C                                       | 65                      | 85          | kJ/m <sup>2</sup> |              |
| Multi-Axial Instrumented Impact Energy     |                         |             |                   | ISO 6603-2   |
| -30°C                                      | 2.60                    | --          | J                 |              |
| 23°C                                       | 3.40                    | --          | J                 |              |
| Multi-Axial Instrumented Impact Peak Force |                         |             |                   | ISO 6603-2   |
| -30°C                                      | 832                     | --          | N                 |              |
| 23°C                                       | 926                     | --          | N                 |              |
| Thermal                                    | Dry                     | Conditioned | Unit              | Test Method  |
| Heat Deflection Temperature                |                         |             |                   |              |
| 0.45 MPa, Unannealed                       | 215                     | --          | °C                | ISO 75-2/B   |
| 1.8 MPa, Unannealed                        | 200                     | --          | °C                | ISO 75-2/A   |
| 8.0 MPa, Unannealed                        | 120                     | --          | °C                | ISO 75-2/C   |
| Vicat Softening Temperature                | > 200                   | --          | °C                | ISO 306/B120 |
| Melting Temperature <sup>9</sup>           | 222                     | --          | °C                | ISO 11357-3  |
| CLTE                                       |                         |             |                   | ISO 11359-2  |
| Flow : 23 to 55°C                          | 3.0E-5                  | --          | cm/cm/°C          |              |
| Transverse : 23 to 55°C                    | 9.0E-5                  | --          | cm/cm/°C          |              |
| Electrical                                 | Dry                     | Conditioned | Unit              | Test Method  |
| Surface Resistivity                        | 1.0E+14                 | 1.0E+12     | ohms              | IEC 60093    |
| Volume Resistivity (23°C)                  | 1.0E+15                 | 1.0E+12     | ohms · cm         | IEC 60093    |

|                                        |                               |             |             |                |
|----------------------------------------|-------------------------------|-------------|-------------|----------------|
| Electric Strength (23°C, 1.00 mm)      | 40                            | 35          | kV/mm       | IEC 60243-1    |
| Relative Permittivity                  |                               |             |             | IEC 60250      |
| 23°C, 100 Hz                           | 4.00                          | 15.0        |             |                |
| 23°C, 1 MHz                            | 4.00                          | 5.00        |             |                |
| Dissipation Factor                     |                               |             |             | IEC 60250      |
| 23°C, 100 Hz                           | 5.0E-3                        | 0.50        |             |                |
| 23°C, 1 MHz                            | 0.015                         | 0.16        |             |                |
| Comparative Tracking Index             |                               |             |             | IEC 60112      |
| Solution A                             | 400                           | --          | V           |                |
| Solution B                             | 275                           | --          | V           |                |
| Flammability                           | Dry                           | Conditioned | Unit        | Test Method    |
| Flame Rating                           |                               |             |             | UL 94          |
| 1.60 mm                                | HB                            | --          |             |                |
| 3.20 mm                                | HB                            | --          |             |                |
| Glow Wire Flammability Index (2.00 mm) | 650                           | --          | °C          | IEC 60695-2-12 |
| Oxygen Index <sup>10</sup>             | 23                            | --          | %           | ISO 4589-2     |
| Injection                              | Dry                           | Unit        | Test Method |                |
| Drying Temperature - Dry Air Dryer     | 80.0                          |             | °C          |                |
| Drying Time - Dry Air Dryer            | 2.0 to 6.0                    |             | hr          |                |
| Processing (Melt) Temp                 | 270 to 290                    |             | °C          |                |
| Mold Temperature                       | 80.0 to 120                   |             | °C          |                |
| NOTE                                   |                               |             |             |                |
| 1.                                     | 150x105x3mm, 80°C MT, 500 bar |             |             |                |
| 2.                                     | 150x105x3mm                   |             |             |                |
| 3.                                     | 150x105x3mm, 80°C MT, 500 bar |             |             |                |
| 4.                                     | 150x105x3mm                   |             |             |                |
| 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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