

# Durethan® BKV 35 H2.0 901510

Polyamide 6

LANXESS Corporation

## Message:

PA 6, 35 % glass fibers, injection molding, heat-aging stabilized

| General Information                             |       |                                  |                   |             |
|-------------------------------------------------|-------|----------------------------------|-------------------|-------------|
| UL YellowCard                                   |       | E245249-473594                   |                   |             |
| Filler / Reinforcement                          |       | Glass Fiber,35% Filler by Weight |                   |             |
| Additive                                        |       | Heat Stabilizer                  |                   |             |
| Features                                        |       | Good Heat Aging Resistance       |                   |             |
| Agency Ratings                                  |       | EC 1907/2006 (REACH)             |                   |             |
| Processing Method                               |       | Injection Molding                |                   |             |
| Physical                                        | Dry   | Conditioned                      | Unit              | Test Method |
| Density (23°C)                                  | 1.41  | --                               | g/cm <sup>3</sup> | ISO 1183    |
| Apparent Density                                | 0.70  | --                               | g/cm <sup>3</sup> | ISO 60      |
| Molding Shrinkage                               |       |                                  |                   | ISO 294-4   |
| Across Flow : 280°C, 2.00 mm <sup>1</sup>       | 0.70  | --                               | %                 |             |
| Across Flow : 120°C, 2 hr, 2.00 mm <sup>2</sup> | 0.14  | --                               | %                 |             |
| Flow : 280°C, 2.00 mm <sup>3</sup>              | 0.23  | --                               | %                 |             |
| Flow : 120°C, 2 hr, 2.00 mm <sup>4</sup>        | 0.070 | --                               | %                 |             |
| Water Absorption                                |       |                                  |                   | ISO 62      |
| Saturation, 23°C                                | 6.5   | --                               | %                 |             |
| Equilibrium, 23°C, 50% RH                       | 1.9   | --                               | %                 |             |
| Hardness                                        | Dry   | Conditioned                      | Unit              | Test Method |
| Ball Indentation Hardness                       | 230   | 120                              | MPa               | ISO 2039-1  |
| Mechanical                                      | Dry   | Conditioned                      | Unit              | Test Method |
| Tensile Modulus (23°C)                          | 10700 | 6800                             | MPa               | ISO 527-2/1 |
| Tensile Stress (Break, 23°C)                    | 180   | 110                              | MPa               | ISO 527-2/5 |
| Tensile Strain (Break, 23°C)                    | 3.0   | 5.0                              | %                 | ISO 527-2/5 |
| Tensile Creep Modulus                           |       |                                  |                   | ISO 899-1   |
| 1 hr                                            | --    | 6000                             | MPa               |             |
| 1000 hr                                         | --    | 4900                             | MPa               |             |
| Flexural Modulus <sup>5</sup> (23°C)            | 10700 | 5900                             | MPa               | ISO 178/A   |
| Flexural Stress <sup>6</sup>                    |       |                                  |                   |             |
| 3.5% Strain                                     | 280   | 160                              | MPa               | ISO 178/A   |
| 23°C                                            | 290   | 180                              | MPa               | ISO 178     |

|                                                          |                         |             |                   |              |
|----------------------------------------------------------|-------------------------|-------------|-------------------|--------------|
| Flexural Strain at Flexural Strength <sup>7</sup> (23°C) | 4.0                     | 5.0         | %                 |              |
| Burning Behavior <sup>8</sup> (> 1.00 mm)                | passed                  | --          |                   | ISO 3795     |
| ISO Shortname                                            | PA 6, GHR, 14-110, GF35 | --          |                   | ISO 1874     |
| Residual Moisture Content                                | 0.030 to 0.12           |             | %                 | Karl Fisher  |
| Films                                                    | Dry                     | Conditioned | Unit              | Test Method  |
| Film Puncture Energy                                     |                         |             |                   | ISO 6603-2   |
| -- <sup>9</sup>                                          | 3.30                    | --          | J                 |              |
| -- <sup>10</sup>                                         | 3.90                    | --          | J                 |              |
| Film Puncture Force                                      |                         |             |                   | ISO 6603-2   |
| -- <sup>11</sup>                                         | 945                     | --          | N                 |              |
| -- <sup>12</sup>                                         | 1060                    | --          | N                 |              |
| Impact                                                   | Dry                     | Conditioned | Unit              | Test Method  |
| Charpy Notched Impact Strength                           |                         |             |                   | ISO 179/1eA  |
| -30°C                                                    | < 10                    | 10          | kJ/m <sup>2</sup> |              |
| 23°C                                                     | 12                      | 20          | kJ/m <sup>2</sup> |              |
| Charpy Unnotched Impact Strength                         |                         |             |                   | ISO 179/1eU  |
| -30°C                                                    | 70                      | 70          | kJ/m <sup>2</sup> |              |
| 23°C                                                     | 80                      | 90          | kJ/m <sup>2</sup> |              |
| Notched Izod Impact Strength                             |                         |             |                   | ISO 180/1A   |
| -30°C                                                    | < 10                    | 10          | kJ/m <sup>2</sup> |              |
| 23°C                                                     | 15                      | 20          | kJ/m <sup>2</sup> |              |
| Unnotched Izod Impact Strength                           |                         |             |                   | ISO 180/1U   |
| -30°C                                                    | 70                      | 65          | kJ/m <sup>2</sup> |              |
| 23°C                                                     | 75                      | 85          | kJ/m <sup>2</sup> |              |
| Thermal                                                  | Dry                     | Conditioned | Unit              | Test Method  |
| Heat Deflection Temperature                              |                         |             |                   |              |
| 0.45 MPa, Unannealed                                     | 215                     | --          | °C                | ISO 75-2/B   |
| 1.8 MPa, Unannealed                                      | 205                     | --          | °C                | ISO 75-2/A   |
| 8.0 MPa, Unannealed                                      | 150                     | --          | °C                | ISO 75-2/C   |
| Vicat Softening Temperature                              |                         |             |                   |              |
| --                                                       | 200                     | --          | °C                | ISO 306/B50  |
| --                                                       | > 200                   | --          | °C                | ISO 306/B120 |
| Melting Temperature <sup>13</sup>                        | 222                     | --          | °C                | ISO 11357-3  |
| CLTE                                                     |                         |             |                   | ISO 11359-2  |
| Flow : 23 to 55°C                                        | 2.0E-5                  | --          | cm/cm/°C          |              |
| Transverse : 23 to 55°C                                  | 8.0E-5                  | --          | cm/cm/°C          |              |
| Electrical                                               | Dry                     | Conditioned | Unit              | Test Method  |

|                                         |             |             |             |                |
|-----------------------------------------|-------------|-------------|-------------|----------------|
| Comparative Tracking Index (Solution A) | 475         | --          | V           | IEC 60112      |
| 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>14</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. 60x60x2; MT 80°C; 600 Bar
2. 60x60x2
3. 60x60x2; MT 80°C; 600 Bar
4. 60x60x2
5. 2.0 mm/min
6. 2.0 mm/min
7. Pull Rate: 2 mm/min; 50% RH
8. US-FMVSS302
9. -30°C
10. 23°C
11. -30°C
12. 23°C
13. 10°C/min
14. Procedure A

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