

# Durethan® BM 25 FN20 700350

Polyamide 6

LANXESS Asia/Pacific

## Message:

PA 6, 25 % mineral, injection molding, halogen free flame retardant

| General Information                                             |      |                                      |                   |              |
|-----------------------------------------------------------------|------|--------------------------------------|-------------------|--------------|
| UL YellowCard                                                   |      | E245249-550630                       |                   |              |
| Filler / Reinforcement                                          |      | Mineral filler, 25% filler by weight |                   |              |
| Additive                                                        |      | Flame retardancy                     |                   |              |
| Features                                                        |      | Halogen-free                         |                   |              |
|                                                                 |      | Flame retardancy                     |                   |              |
|                                                                 |      |                                      |                   |              |
| Processing Method                                               |      | Injection molding                    |                   |              |
| Physical                                                        | Dry  | Conditioned                          | Unit              | Test Method  |
| Density (23°C)                                                  | 1.38 | --                                   | g/cm <sup>3</sup> | ISO 1183     |
| Apparent Density                                                | 0.70 | --                                   | g/cm <sup>3</sup> | ISO 60       |
| Molding Shrinkage                                               |      |                                      |                   | ISO 2577     |
| Vertical flow direction:<br>280°C, 2.00mm <sup>1</sup>          | 0.90 | --                                   | %                 | ISO 2577     |
| Vertical flow direction:<br>120°C, 4 hours, 2.00mm <sup>2</sup> | 0.20 | --                                   | %                 | ISO 2577     |
| Flow direction: 280°C,<br>2.00mm <sup>3</sup>                   | 0.90 | --                                   | %                 | ISO 2577     |
| Flow direction: 120°C, 4<br>hours, 2.00mm <sup>4</sup>          | 0.20 | --                                   | %                 | ISO 2577     |
| Water Absorption<br>(Saturation, 23°C)                          | 6.7  | --                                   | %                 | ISO 62       |
| Hardness                                                        | Dry  | Conditioned                          | Unit              | Test Method  |
| Ball Indentation Hardness                                       | 178  | 70.0                                 | MPa               | ISO 2039-1   |
| Mechanical                                                      | Dry  | Conditioned                          | Unit              | Test Method  |
| Tensile Modulus (23°C)                                          | 5700 | 2100                                 | MPa               | ISO 527-2/1  |
| Tensile Stress                                                  |      |                                      |                   |              |
| Yield, 23°C                                                     | 80.0 | 30.0                                 | MPa               | ISO 527-2/50 |
| Fracture, 23°C                                                  | 80.0 | 30.0                                 | MPa               | ISO 527-2/5  |
| Tensile Strain                                                  |      |                                      |                   |              |
| Yield, 23°C                                                     | 3.0  | 8.0                                  | %                 | ISO 527-2/50 |
| Fracture, 23°C                                                  | 3.0  | 7.0                                  | %                 | ISO 527-2/5  |
| Flexural Modulus <sup>5</sup> (23°C)                            | 5500 | 2000                                 | MPa               | ISO 178/A    |
| Flexural Stress                                                 |      |                                      |                   | ISO 178/A    |
| 3.5% strain, 23°C                                               | 130  | 43.0                                 | MPa               | ISO 178/A    |
| 23°C <sup>6</sup>                                               | 135  | 50.0                                 | MPa               | ISO 178/A    |

|                                                          |                                                  |             |                   |                |
|----------------------------------------------------------|--------------------------------------------------|-------------|-------------------|----------------|
| Flexural Strain at Flexural Strength <sup>7</sup> (23°C) | 3.5                                              | 6.8         | %                 | ISO 178/A      |
| ISO Shortname                                            | PA 6, GFHR, 14-060, MD25; ISO-1043-PA MD FR (30) |             |                   | ISO 1874       |
| Residual Moisture Content                                | 0.030 - 0.070                                    |             |                   | Karl Fisher    |
| Impact                                                   | Dry                                              | Conditioned | Unit              | Test Method    |
| Charpy Unnotched Impact Strength (23°C)                  | 38                                               | 140         | kJ/m <sup>2</sup> | ISO 179/1eU    |
| Notched Izod Impact (23°C)                               | < 10                                             | < 10        | kJ/m <sup>2</sup> | ISO 180/1A     |
| Unnotched Izod Impact Strength (23°C)                    | 30                                               | 100         | kJ/m <sup>2</sup> | ISO 180/1U     |
| Thermal                                                  | Dry                                              | Conditioned | Unit              | Test Method    |
| Heat Deflection Temperature                              |                                                  |             |                   |                |
| 0.45 MPa, not annealed                                   | 195                                              | --          | °C                | ISO 75-2/B     |
| 1.8 MPa, not annealed                                    | 90.0                                             | --          | °C                | ISO 75-2/A     |
| Vicat Softening Temperature                              |                                                  |             |                   |                |
| --                                                       | 205                                              | --          | °C                | ISO 306/B50    |
| --                                                       | 206                                              | --          | °C                | ISO 306/B120   |
| Ball Pressure Test (205°C)                               | Pass                                             | --          |                   | IEC 60695-10-2 |
| Melting Temperature <sup>8</sup>                         | 220                                              | --          | °C                | ISO 11357-3    |
| Linear thermal expansion coefficient                     |                                                  |             |                   | ISO 11359-2    |
| Flow: 23 to 55°C                                         | 6.0E-5                                           | --          | cm/cm/°C          | ISO 11359-2    |
| Lateral: 23 to 55°C                                      | 7.0E-5                                           | --          | cm/cm/°C          | ISO 11359-2    |
| Electrical                                               | Dry                                              | Conditioned | Unit              | Test Method    |
| Comparative Tracking Index (CTI)                         | PLC 1                                            | --          |                   | UL 746         |
| Comparative Tracking Index (Solution A)                  | 450                                              | --          | V                 | IEC 60112      |
|                                                          | PLC 0                                            |             |                   |                |
|                                                          | PLC 0                                            |             |                   |                |
| High Amp Arc Ignition (HAI)                              | PLC 0                                            | --          |                   | UL 746         |
|                                                          | PLC 2                                            |             |                   |                |
|                                                          | PLC 3                                            |             |                   |                |
| Hot-wire Ignition (HWI)                                  | PLC 4                                            | --          |                   | UL 746         |
| Flammability                                             | Dry                                              | Conditioned | Unit              | Test Method    |
| Flame Rating                                             |                                                  |             |                   | UL 94          |
| 0.750 mm                                                 | V-2                                              | --          |                   | UL 94          |
| 1.50 mm                                                  | V-2                                              | --          |                   | UL 94          |

|                                    |                             |      |             |                |
|------------------------------------|-----------------------------|------|-------------|----------------|
| 3.00 mm                            | V-2                         | --   |             | UL 94          |
| Glow Wire Flammability Index       |                             |      |             | IEC 60695-2-12 |
| 0.800 mm                           | 960                         | --   | °C          | IEC 60695-2-12 |
| 1.50 mm                            | 960                         | --   | °C          | IEC 60695-2-12 |
| 3.00 mm                            | 960                         | --   | °C          | IEC 60695-2-12 |
| Glow Wire Ignition Temperature     |                             |      |             | IEC 60695-2-13 |
| 0.750 mm                           | 725                         | --   | °C          | IEC 60695-2-13 |
| 1.50 mm                            | 725                         | --   | °C          | IEC 60695-2-13 |
| 3.00 mm                            | 725                         | --   | °C          | IEC 60695-2-13 |
| Injection                          | Dry                         | Unit | Test Method |                |
| Drying Temperature - Dry Air Dryer | 80.0                        |      | °C          |                |
| Drying Time - Dry Air Dryer        | 2.0 - 6.0                   |      | hr          |                |
| Processing (Melt) Temp             | 250 - 270                   |      | °C          |                |
| Mold Temperature                   | 80.0 - 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                    |      |             |                |

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

#### Recommended distributors for this material

### 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



WECHAT