

# Durethan® DP BM 65 X FM30 901510

Polyamide 6

LANXESS GmbH

## Message:

PA 6, 65 % mineral/glass fibers, injection molding, halogen free flame retardant, improved flowability despite the high degree of filling

| General Information                                      |                                                             |                                    |                   |             |
|----------------------------------------------------------|-------------------------------------------------------------|------------------------------------|-------------------|-------------|
| UL YellowCard                                            |                                                             | E245249-634788                     |                   |             |
| Filler / Reinforcement                                   |                                                             | Glass\Mineral,65% Filler by Weight |                   |             |
| Additive                                                 |                                                             | Flame Retardant                    |                   |             |
| Features                                                 |                                                             | Flame Retardant                    |                   |             |
|                                                          |                                                             | Good Flow                          |                   |             |
|                                                          |                                                             | Halogen Free                       |                   |             |
| Processing Method                                        |                                                             | Injection Molding                  |                   |             |
| Physical                                                 | Dry                                                         | Conditioned                        | Unit              | Test Method |
| Density (23°C)                                           | 1.69                                                        | --                                 | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage                                        |                                                             |                                    |                   | ISO 2577    |
| Across Flow : 280°C, 2.00 mm <sup>1</sup>                | 0.50                                                        | --                                 | %                 |             |
| Across Flow : 120°C, 4 hr, 2.00 mm <sup>2</sup>          | 0.10                                                        | --                                 | %                 |             |
| Flow : 280°C, 2.00 mm <sup>3</sup>                       | 0.40                                                        | --                                 | %                 |             |
| Flow : 120°C, 4 hr, 2.00 mm <sup>4</sup>                 | 0.10                                                        | --                                 | %                 |             |
| Water Absorption                                         |                                                             |                                    |                   | ISO 62      |
| Saturation, 23°C                                         | 3.5                                                         | --                                 | %                 |             |
| Equilibrium, 23°C, 50% RH                                | 1.2                                                         | --                                 | %                 |             |
| Mechanical                                               | Dry                                                         | Conditioned                        | Unit              | Test Method |
| Tensile Modulus (23°C)                                   | 12100                                                       | 6000                               | MPa               | ISO 527-2/1 |
| Tensile Stress (Break, 23°C)                             | 120                                                         | 73.0                               | MPa               | ISO 527-2/5 |
| Tensile Strain (Break, 23°C)                             | 1.6                                                         | 2.2                                | %                 | ISO 527-2/5 |
| Flexural Modulus <sup>5</sup> (23°C)                     | 12300                                                       | 6000                               | MPa               | ISO 178/A   |
| Flexural Stress <sup>6</sup> (23°C)                      | 175                                                         | 110                                | MPa               | ISO 178/A   |
| Flexural Strain at Flexural Strength <sup>7</sup> (23°C) | 1.8                                                         | 2.6                                | %                 | ISO 178/A   |
| ISO Shortname                                            | PA 6, GFHR, 14-120, (MD+GF) 65; ISO 1043-PA (MD+GF) FR (61) |                                    |                   | ISO 1874    |
| Residual Moisture Content                                | 0.030 to 0.070                                              |                                    | %                 | Karl Fisher |
| Impact                                                   | Dry                                                         | Conditioned                        | Unit              | Test Method |
| Charpy Unnotched Impact Strength (23°C)                  | 30                                                          | 23                                 | kJ/m <sup>2</sup> | ISO 179/1eU |

|                                           |                             |             |                   |                |
|-------------------------------------------|-----------------------------|-------------|-------------------|----------------|
| Notched Izod Impact Strength (23°C)       | < 10                        | < 10        | kJ/m <sup>2</sup> | ISO 180/1A     |
| Unnotched Izod Impact Strength (23°C)     | 25                          | 22          | kJ/m <sup>2</sup> | ISO 180/1U     |
| Thermal                                   | Dry                         | Conditioned | Unit              | Test Method    |
| Heat Deflection Temperature               |                             |             |                   |                |
| 0.45 MPa, Unannealed                      | 200                         | --          | °C                | ISO 75-2/B     |
| 1.8 MPa, Unannealed                       | 181                         | --          | °C                | ISO 75-2/A     |
| Vicat Softening Temperature               | 204                         | --          | °C                | ISO 306/B120   |
| Melting Temperature <sup>8</sup>          | 220                         | --          | °C                | ISO 11357-3    |
| CLTE                                      |                             |             |                   | ISO 11359-2    |
| Flow : 23 to 55°C                         | 3.0E-5                      | --          | cm/cm/°C          |                |
| Transverse : 23 to 55°C                   | 5.0E-5                      | --          | cm/cm/°C          |                |
| Electrical                                | Dry                         | Conditioned | Unit              | Test Method    |
| Electric Strength (23°C, 1.00 mm)         | 26                          | --          | kV/mm             | IEC 60243-1    |
| Comparative Tracking Index (Solution A)   | 600                         | --          | V                 | IEC 60112      |
| Flammability                              | Dry                         | Conditioned | Unit              | Test Method    |
| Flame Rating                              |                             |             |                   | UL 94          |
| 1.20 mm                                   | V-0                         | --          |                   |                |
| 1.50 mm                                   | V-0                         | --          |                   |                |
| Glow Wire Flammability Index (0.800 mm)   | 960                         | --          | °C                | IEC 60695-2-12 |
| Glow Wire Ignition Temperature (0.800 mm) | 775                         | --          | °C                | IEC 60695-2-13 |
| Oxygen Index <sup>9</sup>                 | 49                          | --          | %                 | 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                    | 250 to 280                  |             | °C                |                |
| Mold Temperature                          | 80.0 to 100                 |             | °C                |                |
| NOTE                                      |                             |             |                   |                |
| 1.                                        | 60x60x2mm, 80°C MT, 500 bar |             |                   |                |
| 2.                                        | 60x60x2mm                   |             |                   |                |
| 3.                                        | 60x60x2mm, 80°C MT, 500 bar |             |                   |                |
| 4.                                        | 60x60x2mm                   |             |                   |                |
| 5.                                        | 2.0 mm/min                  |             |                   |                |
| 6.                                        | 2.0 mm/min                  |             |                   |                |
| 7.                                        | 2 mm/min                    |             |                   |                |
| 8.                                        | 10°C/min                    |             |                   |                |

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