

# Durethan® AM 430 H2.0 901510

Polyamide 66

LANXESS GmbH

## Message:

PA 66, 30% mineral, injection molding, heat-aging stabilized

| General Information                                             |                                      |             |                   |             |
|-----------------------------------------------------------------|--------------------------------------|-------------|-------------------|-------------|
| Filler / Reinforcement                                          | Mineral filler, 30% filler by weight |             |                   |             |
| Additive                                                        | heat stabilizer                      |             |                   |             |
| Features                                                        | Thermal Stability                    |             |                   |             |
| Agency Ratings                                                  | EC 1907/2006 (REACH)                 |             |                   |             |
| Processing Method                                               | Injection molding                    |             |                   |             |
| Physical                                                        | Dry                                  | Conditioned | Unit              | Test Method |
| Density (23°C)                                                  | 1.39                                 | --          | g/cm <sup>3</sup> | ISO 1183    |
| Molding Shrinkage                                               |                                      |             |                   | ISO 2577    |
| Vertical flow direction:<br>290°C, 2.00mm <sup>1</sup>          | 1.2                                  | --          | %                 | ISO 2577    |
| Vertical flow direction:<br>120°C, 4 hours, 2.00mm <sup>2</sup> | 0.30                                 | --          | %                 | ISO 2577    |
| Flow direction: 290°C,<br>2.00mm <sup>3</sup>                   | 1.0                                  | --          | %                 | ISO 2577    |
| Flow direction: 120°C, 4<br>hours, 2.00mm <sup>4</sup>          | 0.20                                 | --          | %                 | ISO 2577    |
| Mechanical                                                      | Dry                                  | Conditioned | Unit              | Test Method |
| Tensile Modulus (23°C)                                          | 4800                                 | 2000        | MPa               | ISO 527-2/1 |
| Tensile Stress (Break, 23°C)                                    | 80.0                                 | 40.0        | MPa               | ISO 527-2/5 |
| Tensile Strain (Break, 23°C)                                    | 4.0                                  | 50          | %                 | ISO 527-2/5 |
| Flexural Modulus <sup>5</sup> (23°C)                            | 4900                                 | 2100        | MPa               | ISO 178/A   |
| Flexural Stress                                                 |                                      |             |                   | ISO 178/A   |
| 3.5% strain, 23°C                                               | 130                                  | 50.0        | MPa               | ISO 178/A   |
| 23°C <sup>6</sup>                                               | 140                                  | 60.0        | MPa               | ISO 178/A   |
| Flexural Strain at Flexural<br>Strength <sup>7</sup> (23°C)     | 5.0                                  | 7.5         | %                 | ISO 178/A   |
| ISO Shortname                                                   | PA 66, GHR, 14-050, MD30             | --          |                   | ISO 1874    |
| Residual Moisture Content                                       | 0.030 - 0.12                         |             | %                 | Karl Fisher |
| Impact                                                          | Dry                                  | Conditioned | Unit              | Test Method |
| Charpy Notched Impact<br>Strength                               |                                      |             |                   | ISO 179/1eA |
| -30°C                                                           | < 10                                 | < 10        | kJ/m <sup>2</sup> | ISO 179/1eA |
| 23°C                                                            | < 10                                 | < 10        | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy Unnotched Impact<br>Strength                             |                                      |             |                   | ISO 179/1eU |

|                                                   |                             |             |                   |              |
|---------------------------------------------------|-----------------------------|-------------|-------------------|--------------|
| -30°C                                             | 60                          | --          | kJ/m <sup>2</sup> | ISO 179/1eU  |
| 23°C                                              | 70                          | 120         | kJ/m <sup>2</sup> | ISO 179/1eU  |
| Notched Izod Impact                               |                             |             |                   | ISO 180/1A   |
| -30°C                                             | < 10                        | < 10        | kJ/m <sup>2</sup> | ISO 180/1A   |
| 23°C                                              | < 10                        | < 10        | kJ/m <sup>2</sup> | ISO 180/1A   |
| Unnotched Izod Impact Strength                    |                             |             |                   | ISO 180/1U   |
| -30°C                                             | 50                          | --          | kJ/m <sup>2</sup> | ISO 180/1U   |
| 23°C                                              | 60                          | 110         | kJ/m <sup>2</sup> | ISO 180/1U   |
| Thermal                                           | Dry                         | Conditioned | Unit              | Test Method  |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 90.0                        | --          | °C                | ISO 75-2/A   |
| Vicat Softening Temperature                       | 244                         | --          | °C                | ISO 306/B120 |
| Melting Temperature <sup>8</sup>                  | 262                         | --          | °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                               | 8.0E-5                      | --          | cm/cm/°C          | ISO 11359-2  |
| 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                            | 280 - 300                   |             | °C                |              |
| Mold Temperature                                  | 80.0 - 120                  |             | °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                    |             |                   |              |

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