

# Durethan® AC 30 DUS027 000000

Polyamide 66

LANXESS Asia/Pacific

## Message:

PA 66, non-reinforced, injection molding, heat-aging stabilized, improved impact strength

| General Information                                             |                       |                            |                   |              |
|-----------------------------------------------------------------|-----------------------|----------------------------|-------------------|--------------|
| UL YellowCard                                                   |                       | E245249-100858561          |                   |              |
| Additive                                                        |                       | heat stabilizer            |                   |              |
| Features                                                        |                       | Impact resistance, good    |                   |              |
|                                                                 |                       | Good heat aging resistance |                   |              |
| Agency Ratings                                                  |                       | EC 1907/2006 (REACH)       |                   |              |
| Processing Method                                               |                       | Injection molding          |                   |              |
| Physical                                                        | Dry                   | Conditioned                | Unit              | Test Method  |
| Density (23°C)                                                  | 1.11                  | --                         | g/cm <sup>3</sup> | ISO 1183     |
| Molding Shrinkage                                               |                       |                            |                   | ISO 294-4    |
| Vertical flow direction:<br>280°C, 2.00mm <sup>1</sup>          | 1.8                   | --                         | %                 | ISO 294-4    |
| Vertical flow direction:<br>120°C, 2 hours, 2.00mm <sup>2</sup> | 0.20                  | --                         | %                 | ISO 294-4    |
| Flow direction: 280°C,<br>2.00mm <sup>3</sup>                   | 1.3                   | --                         | %                 | ISO 294-4    |
| Flow direction: 120°C, 2<br>hours, 2.00mm <sup>4</sup>          | 0.20                  | --                         | %                 | ISO 294-4    |
| Mechanical                                                      | Dry                   | Conditioned                | Unit              | Test Method  |
| Tensile Modulus (23°C)                                          | 3000                  | 1100                       | MPa               | ISO 527-2/1  |
| Tensile Stress (Yield, 23°C)                                    | 70.0                  | 40.0                       | MPa               | ISO 527-2/50 |
| Tensile Strain (Yield, 23°C)                                    | 5.8                   | 25                         | %                 | ISO 527-2/50 |
| Nominal Tensile Strain at<br>Break (23°C)                       | 18                    | 75                         | %                 | ISO 527-2/50 |
| Flexural Modulus <sup>5</sup> (23°C)                            | 2600                  | 1000                       | MPa               | ISO 178/A    |
| Flexural Stress <sup>6</sup>                                    |                       |                            |                   |              |
| 3.5% strain                                                     | 80.0                  | 30.0                       | MPa               | ISO 178/A    |
| 23°C                                                            | 100                   | 40.0                       | MPa               | ISO 178      |
| Flexural Strain at Flexural<br>Strength <sup>7</sup> (23°C)     | 6.6                   | 8.8                        | %                 |              |
| ISO Shortname                                                   | PA 66-HI, GHR, 14-030 | --                         |                   | ISO 1874     |
| Admissible Residence Time<br>at Tmax                            |                       |                            | min               |              |
| Residual Moisture Content                                       | 0.030 - 0.12          |                            | %                 | Karl Fisher  |
| Impact                                                          | Dry                   | Conditioned                | Unit              | Test Method  |

|                                      |                             |             |                   |             |
|--------------------------------------|-----------------------------|-------------|-------------------|-------------|
| Charpy Notched Impact Strength       |                             |             |                   | ISO 179/1eA |
| -30°C                                | < 10                        | < 10        | kJ/m <sup>2</sup> | ISO 179/1eA |
| 23°C                                 | < 10                        | 25          | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy Unnotched Impact Strength     |                             |             |                   | ISO 179/1eU |
| -30°C                                | No Break                    | No Break    |                   | ISO 179/1eU |
| 23°C                                 | No Break                    | No Break    |                   | ISO 179/1eU |
| Notched Izod Impact                  |                             |             |                   | ISO 180/1A  |
| -30°C                                | < 10                        | --          | kJ/m <sup>2</sup> | ISO 180/1A  |
| 23°C                                 | < 10                        | 25          | kJ/m <sup>2</sup> | ISO 180/1A  |
| Unnotched Izod Impact Strength       |                             |             |                   | ISO 180/1U  |
| -30°C                                | No Break                    | No Break    |                   | ISO 180/1U  |
| 23°C                                 | No Break                    | No Break    |                   | ISO 180/1U  |
| Thermal                              | Dry                         | Conditioned | Unit              | Test Method |
| Heat Deflection Temperature          |                             |             |                   |             |
| 0.45 MPa, not annealed               | 192                         | --          | °C                | ISO 75-2/B  |
| 1.8 MPa, not annealed                | 66.0                        | --          | °C                | ISO 75-2/A  |
| Melting Temperature <sup>8</sup>     | 261                         | --          | °C                | ISO 11357-3 |
| Linear thermal expansion coefficient |                             |             |                   | ISO 11359-2 |
| Flow: 23 to 55°C                     | 8.0E-5                      | --          | cm/cm/°C          | ISO 11359-2 |
| Lateral: 23 to 55°C                  | 1.1E-4                      | --          | 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               | 270 - 290                   |             | °C                |             |
| Mold Temperature                     | 80.0 - 90.0                 |             | °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.                                   | 10°C/min                    |             |                   |             |

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