

# Tarnamid® T- 27 MCS HI

Polyamide 6  
Grupa Azoty S.A.

Message:  
Impact modified.

| General Information                        |      |                                    |                        |              |
|--------------------------------------------|------|------------------------------------|------------------------|--------------|
| Additive                                   |      | Impact Modifier                    |                        |              |
| Features                                   |      | Impact Modified                    |                        |              |
| Uses                                       |      | Appliances                         |                        |              |
|                                            |      | Automotive Applications            |                        |              |
|                                            |      | Electrical/Electronic Applications |                        |              |
|                                            |      | Household Goods                    |                        |              |
| Appearance                                 |      | Black                              |                        |              |
|                                            |      | Colors Available                   |                        |              |
|                                            |      | Natural Color                      |                        |              |
| Processing Method                          |      | Injection Molding                  |                        |              |
| Physical                                   | Dry  | Conditioned                        | Unit                   | Test Method  |
| Density                                    | 1.08 | --                                 | g/cm <sup>3</sup>      | ISO 1183     |
| Melt Volume-Flow Rate (MVR) (275°C/5.0 kg) | 60.0 | --                                 | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage                          |      |                                    |                        | ISO 294-4    |
| Across Flow : 2.00 mm                      | 2.1  | --                                 | %                      |              |
| Flow : 2.00 mm                             | 1.7  | --                                 | %                      |              |
| Water Absorption                           |      |                                    |                        | ISO 62       |
| Saturation, 23°C                           | 7.0  | --                                 | %                      |              |
| Equilibrium, 23°C, 50% RH                  | 2.2  | --                                 | %                      |              |
| Hardness                                   | Dry  | Conditioned                        | Unit                   | Test Method  |
| Ball Indentation Hardness (H 358/30)       | 95.0 | 65.0                               | MPa                    | ISO 2039-1   |
| Mechanical                                 | Dry  | Conditioned                        | Unit                   | Test Method  |
| Tensile Modulus                            | 1800 | 700                                | MPa                    | ISO 527-2/1  |
| Tensile Stress (Yield)                     | 50.0 | 32.0                               | MPa                    | ISO 527-2/50 |
| Tensile Strain (Break)                     | 120  | 300                                | %                      | ISO 527-2/50 |
| Flexural Modulus <sup>1</sup>              | 1600 | 500                                | MPa                    | ISO 178      |
| Flexural Stress <sup>2</sup>               | 55.0 | 16.0                               | MPa                    | ISO 178      |
| Impact                                     | Dry  | Conditioned                        | Unit                   | Test Method  |

|                                                   |                    |             |                   |             |
|---------------------------------------------------|--------------------|-------------|-------------------|-------------|
| Charpy Notched Impact Strength                    |                    |             |                   | ISO 179/1eA |
| --                                                | 50                 | 80          | kJ/m <sup>2</sup> |             |
| -30°C                                             | 30                 | --          | kJ/m <sup>2</sup> |             |
| Charpy Unnotched Impact Strength                  |                    |             |                   | ISO 179/1eU |
| --                                                | No Break           | No Break    |                   |             |
| -30°C                                             | No Break           | No Break    |                   |             |
| Notched Izod Impact Strength                      | 50                 | 75          | kJ/m <sup>2</sup> | ISO 180     |
| Thermal                                           | Dry                | Conditioned | Unit              | Test Method |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 55.0               | 45.0        | °C                | ISO 75-2/A  |
| Vicat Softening Temperature                       | 160                | 130         | °C                | ISO 306/B   |
| Melting Temperature                               | 221                | --          | °C                | ISO 11357-3 |
| CLTE                                              |                    |             |                   | ISO 11359-2 |
| Flow : 23 to 55°C                                 | 1.3E-4             | --          | cm/cm/°C          |             |
| Transverse : 23 to 55°C                           | 1.6E-4             | --          | cm/cm/°C          |             |
| Limit of Temperature - a few hours operation      | < 160              | --          | °C                |             |
| Temperature Index                                 |                    |             |                   |             |
| 20000 hr                                          | 70                 | --          | °C                |             |
| 5000 hr                                           | 85                 | --          | °C                |             |
| ISO Type                                          | PA6-HI, MHR, 14020 | --          |                   | ISO 1874    |
| Electrical                                        | Dry                | Conditioned | Unit              | Test Method |
| Surface Resistivity                               | 1.0E+16            | 1.0E+14     | ohms              | IEC 60093   |
| Volume Resistivity                                | 1.0E+16            | 1.0E+13     | ohms·cm           | IEC 60093   |
| Electric Strength (2.00 mm)                       | 30                 | 24          | kV/mm             | IEC 60243-1 |
| Dielectric Constant (1 Hz)                        | 3.50               | 4.20        |                   | IEC 60250   |
| Dissipation Factor (1 Hz)                         | 0.018              | 0.10        |                   | IEC 60250   |
| Comparative Tracking Index (Solution A)           | 600                | 600         | V                 | IEC 60112   |
| Flammability                                      | Dry                | Conditioned | Unit              | Test Method |
| Flame Rating (3.20 mm)                            | HB                 | --          |                   | UL 94       |
| Injection                                         | Dry                | Unit        |                   |             |
| Drying Temperature                                | < 80.0             |             | °C                |             |
| Suggested Max Moisture                            | < 0.10             |             | %                 |             |
| Suggested Max Regrind                             | 50                 |             | %                 |             |
| Processing (Melt) Temp                            | 240 to 260         |             | °C                |             |
| Mold Temperature                                  | 60.0 to 80.0       |             | °C                |             |
| Injection Pressure                                | 80.0 to 110        |             | MPa               |             |
| Injection Rate                                    | Moderate           |             |                   |             |
| NOTE                                              |                    |             |                   |             |

|    |            |
|----|------------|
| 1. | 2.0 mm/min |
| 2. | 2.0 mm/min |

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