

# Tarnamid® T- 27 MTR

Polyamide 6

Grupa Azoty S.A.

## Message:

Tarnamid T-27 MTR there is translucent polyamide 6, with limited translucency up to maximum 2,5 mm of parts wall thickness.

| General Information                        |                                    |                   |                        |              |
|--------------------------------------------|------------------------------------|-------------------|------------------------|--------------|
| Uses                                       | Appliances                         |                   |                        |              |
|                                            | Automotive Applications            |                   |                        |              |
|                                            | Electrical/Electronic Applications |                   |                        |              |
|                                            | Household Goods                    |                   |                        |              |
| Appearance                                 | Natural Color                      |                   |                        |              |
|                                            | Translucent                        |                   |                        |              |
| Processing Method                          |                                    | Injection Molding |                        |              |
| Physical                                   | Dry                                | Conditioned       | Unit                   | Test Method  |
| Density                                    | 1.13                               | --                | g/cm <sup>3</sup>      | ISO 1183     |
| Melt Volume-Flow Rate (MVR) (275°C/5.0 kg) | 110                                | --                | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage                          |                                    |                   |                        | ISO 294-4    |
| Across Flow : 2.00 mm                      | 0.30                               | --                | %                      |              |
| Flow : 2.00 mm                             | 0.15                               | --                | %                      |              |
| Water Absorption                           |                                    |                   |                        | ISO 62       |
| Saturation, 23°C                           | 9.5                                | --                | %                      |              |
| Equilibrium, 23°C, 50% RH                  | 2.0                                | --                | %                      |              |
| Hardness                                   | Dry                                | Conditioned       | Unit                   | Test Method  |
| Ball Indentation Hardness (H 358/30)       | 80.0                               | 45.0              | MPa                    | ISO 2039-1   |
| Mechanical                                 | Dry                                | Conditioned       | Unit                   | Test Method  |
| Tensile Modulus                            | 2600                               | 1300              | MPa                    | ISO 527-2/1  |
| Tensile Stress (Yield)                     | 80.0                               | 45.0              | MPa                    | ISO 527-2/50 |
| Tensile Strain (Break)                     | 50                                 | > 100             | %                      | ISO 527-2/50 |
| Flexural Modulus <sup>1</sup>              | 2200                               | 1000              | MPa                    | ISO 178      |
| Flexural Stress <sup>2</sup>               | 85.0                               | 30.0              | MPa                    | ISO 178      |
| Impact                                     | Dry                                | Conditioned       | Unit                   | Test Method  |
| Charpy Unnotched Impact Strength (-30°C)   | 5.5                                | 13                | kJ/m <sup>2</sup>      | ISO 179/1eU  |
| Notched Izod Impact Strength               | 120                                | 75                | kJ/m <sup>2</sup>      | ISO 180      |
| Thermal                                    | Dry                                | Conditioned       | Unit                   | Test Method  |

|                                                   |                 |             |         |                |
|---------------------------------------------------|-----------------|-------------|---------|----------------|
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 50.0            | --          | °C      | ISO 75-2/A     |
| Vicat Softening Temperature                       | 120             | --          | °C      | ISO 306/B      |
| Melting Temperature                               | 221             | --          | °C      | ISO 11357-3    |
| Limit of Temperature - a few hours operation      | < 180           | --          | °C      |                |
| Temperature Index                                 |                 |             |         |                |
| 20000 hr                                          | 70              | --          | °C      |                |
| 5000 hr                                           | 85              | --          | °C      |                |
| Burning Rate                                      | +               | --          |         | FMVSS 302      |
| ISO Type                                          | PA6, MT, 14-030 | --          |         | 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                                      |                 |             |         | UL 94          |
| 1.60 mm                                           | V-2             | --          |         |                |
| 3.20 mm                                           | V-2             | --          |         |                |
| Glow Wire Flammability Index (2.00 mm)            | 750             | --          | °C      | IEC 60695-2-12 |
| 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                                  | 40.0 to 60.0    |             | °C      |                |
| Injection Pressure                                | 80.0 to 110     |             | MPa     |                |
| Injection Rate                                    | Fast            |             |         |                |
| NOTE                                              |                 |             |         |                |
| 1.                                                | 2.0 mm/min      |             |         |                |
| 2.                                                | 2.0 mm/min      |             |         |                |

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