

# Tarnamid® T-27 GF 15

Polyamide 6

Grupa Azoty S.A.

## Message:

It is 15% glass fibre reinforced polyamide 6 compound, heat stabilised.

| General Information                        |      |                                    |                   |             |
|--------------------------------------------|------|------------------------------------|-------------------|-------------|
| UL YellowCard                              |      | E337949-100845704                  | E337949-101091680 |             |
| Filler / Reinforcement                     |      | Glass Fiber,15% Filler by Weight   |                   |             |
| Additive                                   |      | Heat Stabilizer                    |                   |             |
| Features                                   |      | Heat Stabilized                    |                   |             |
| 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                                    | 1.22 | --                                 | g/cm³             | ISO 1183    |
| Melt Volume-Flow Rate (MVR) (275°C/5.0 kg) | 60.0 | --                                 | cm³/10min         | ISO 1133    |
| Molding Shrinkage                          |      |                                    |                   | ISO 294-4   |
| Across Flow : 2.00 mm                      | 1.2  | --                                 | %                 |             |
| Flow : 2.00 mm                             | 0.40 | --                                 | %                 |             |
| Water Absorption                           |      |                                    |                   | ISO 62      |
| Saturation, 23°C                           | 8.3  | --                                 | %                 |             |
| Equilibrium, 23°C, 50% RH                  | 2.7  | --                                 | %                 |             |
| Hardness                                   | Dry  | Conditioned                        | Unit              | Test Method |
| Ball Indentation Hardness (H 358/30)       | 185  | 130                                | MPa               | ISO 2039-1  |
| Mechanical                                 | Dry  | Conditioned                        | Unit              | Test Method |
| Tensile Modulus                            | 5700 | 3500                               | MPa               | ISO 527-2/1 |
| Tensile Stress (Yield)                     | 130  | 70.0                               | MPa               | ISO 527-2/5 |
| Tensile Strain (Break)                     | 4.0  | 14                                 | %                 | ISO 527-2/5 |
| Flexural Modulus <sup>1</sup>              | 5000 | 4000                               | MPa               | ISO 178     |
| Flexural Stress <sup>2</sup>               | 180  | 110                                | MPa               | ISO 178     |

| Impact                                            | Dry                    | Conditioned | Unit              | Test Method    |
|---------------------------------------------------|------------------------|-------------|-------------------|----------------|
| Charpy Notched Impact Strength                    |                        |             |                   | ISO 179/1eA    |
| --                                                | 6.0                    | 15          | kJ/m <sup>2</sup> |                |
| -30°C                                             | 5.0                    | --          | kJ/m <sup>2</sup> |                |
| Charpy Unnotched Impact Strength                  |                        |             |                   | ISO 179/1eU    |
| --                                                | 50                     | 100         | kJ/m <sup>2</sup> |                |
| -30°C                                             | 45                     | --          | kJ/m <sup>2</sup> |                |
| Notched Izod Impact Strength                      | 7.0                    | 18          | kJ/m <sup>2</sup> | ISO 180        |
| Thermal                                           | Dry                    | Conditioned | Unit              | Test Method    |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 195                    | 190         | °C                | ISO 75-2/A     |
| Vicat Softening Temperature                       | 215                    | 200         | °C                | ISO 306/B      |
| Melting Temperature                               | 221                    | --          | °C                | ISO 11357-3    |
| CLTE                                              |                        |             |                   | ISO 11359-2    |
| Flow : 23 to 55°C                                 | 3.0E-5                 | --          | cm/cm/°C          |                |
| Transverse : 23 to 55°C                           | 1.3E-4                 | --          | cm/cm/°C          |                |
| Limit of Temperature - a few hours operation      | 180                    | --          | °C                |                |
| Temperature Index                                 |                        |             |                   |                |
| 20000 hr                                          | 110                    | --          | °C                |                |
| 5000 hr                                           | 120                    | --          | °C                |                |
| Burning Rate                                      | +                      | --          |                   | FMVSS 302      |
| ISO Type                                          | PA6, MHR, 14-140, GF15 | --          |                   | ISO 1874       |
| Electrical                                        | Dry                    | Conditioned | Unit              | Test Method    |
| Surface Resistivity                               | 1.0E+16                | 1.0E+12     | ohms              | IEC 60093      |
| Volume Resistivity                                | 1.0E+16                | 1.0E+13     | ohms·cm           | IEC 60093      |
| Electric Strength (2.00 mm)                       | 31                     | 27          | kV/mm             | IEC 60243-1    |
| Dielectric Constant (1 Hz)                        | 3.70                   | 4.70        |                   | IEC 60250      |
| Dissipation Factor (1 Hz)                         | 0.016                  | 0.13        |                   | IEC 60250      |
| Comparative Tracking Index (Solution A)           | 525                    | 525         | V                 | IEC 60112      |
| Flammability                                      | Dry                    | Conditioned | Unit              | Test Method    |
| Flame Rating (3.20 mm)                            | HB                     | --          |                   | UL 94          |
| Glow Wire Flammability Index (2.00 mm)            | 550                    | --          | °C                | IEC 60695-2-12 |
| Injection                                         | Dry                    | Unit        |                   |                |
| Drying Temperature                                | < 80.0                 |             | °C                |                |
| Suggested Max Moisture                            | < 0.10                 |             | %                 |                |
| Suggested Max Re grind                            | 10                     |             | %                 |                |
| Processing (Melt) Temp                            | 240 to 260             |             | °C                |                |

|                    |             |     |
|--------------------|-------------|-----|
| Mold Temperature   | 80.0 to 100 | °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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## Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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