

# Tarnamid® T- 27 GF20 FRV2

Polyamide 6

Grupa Azoty S.A.

Message:

20% glass reinforced, heat stabilised, flame retardant, halogens and phosphorus free.

| General Information                        |      |                                    |                        |             |
|--------------------------------------------|------|------------------------------------|------------------------|-------------|
| Filler / Reinforcement                     |      | Glass Fiber,20% Filler by Weight   |                        |             |
| Additive                                   |      | Flame Retardant                    |                        |             |
|                                            |      | Heat Stabilizer                    |                        |             |
| Features                                   |      | Flame Retardant                    |                        |             |
|                                            |      | Halogen Free                       |                        |             |
|                                            |      | Heat Stabilized                    |                        |             |
|                                            |      | Low (to None) Phosphorus Content   |                        |             |
| 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/cm <sup>3</sup>      | ISO 1183    |
| Melt Volume-Flow Rate (MVR) (275°C/5.0 kg) | 70.0 | --                                 | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage                          |      |                                    |                        | ISO 294-4   |
| Across Flow : 2.00 mm                      | 0.90 | --                                 | %                      |             |
| Flow : 2.00 mm                             | 0.40 | --                                 | %                      |             |
| Hardness                                   | Dry  | Conditioned                        | Unit                   | Test Method |
| Ball Indentation Hardness (H 358/30)       | 210  | 120                                | MPa                    | ISO 2039-1  |
| Mechanical                                 | Dry  | Conditioned                        | Unit                   | Test Method |
| Tensile Modulus                            | 5400 | 3600                               | MPa                    | ISO 527-2/1 |
| Tensile Stress (Yield)                     | 100  | 60.0                               | MPa                    | ISO 527-2/5 |
| Tensile Strain (Break)                     | 5.0  | 10                                 | %                      | ISO 527-2/5 |
| Flexural Modulus <sup>1</sup>              | 4800 | 3100                               | MPa                    | ISO 178     |

|                                                   |                         |             |                   |                |
|---------------------------------------------------|-------------------------|-------------|-------------------|----------------|
| Flexural Stress <sup>2</sup>                      | 140                     | 90.0        | MPa               | ISO 178        |
| Impact                                            | Dry                     | Conditioned | Unit              | Test Method    |
| Charpy Notched Impact Strength                    | 3.0                     | 6.0         | kJ/m <sup>2</sup> | ISO 179/1eA    |
| Charpy Unnotched Impact Strength                  | 30                      | 70          | kJ/m <sup>2</sup> | ISO 179/1eU    |
| Notched Izod Impact Strength                      | 3.0                     | 6.0         | kJ/m <sup>2</sup> | ISO 180        |
| Thermal                                           | Dry                     | Conditioned | Unit              | Test Method    |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 190                     | 180         | °C                | ISO 75-2/A     |
| Vicat Softening Temperature                       | 200                     | 190         | °C                | ISO 306/B      |
| Melting Temperature                               | 221                     | --          | °C                | ISO 11357-3    |
| Limit of Temperature - a few hours operation      | < 200                   | --          | °C                |                |
| Temperature Index                                 |                         |             |                   |                |
| 20000 hr                                          | 110                     | --          | °C                |                |
| 5000 hr                                           | 120                     | --          | °C                |                |
| Burning Rate                                      | +                       | --          |                   | FMVSS 302      |
| ISO Type                                          | PA6, MFHR, 14-070, GF20 | --          |                   | ISO 1874       |
| Electrical                                        | Dry                     | Conditioned | Unit              | Test Method    |
| Comparative Tracking Index (Solution A)           | 600                     | --          | V                 | IEC 60112      |
| Flammability                                      | Dry                     | Conditioned | Unit              | Test Method    |
| Flame Rating (3.20 mm)                            | V-2                     | --          |                   | UL 94          |
| Glow Wire Flammability Index (2.00 mm)            | 960                     | --          | °C                | IEC 60695-2-12 |
| Injection                                         | Dry                     | Unit        |                   |                |
| Drying Temperature                                | < 80.0                  |             | °C                |                |
| Suggested Max Moisture                            | < 0.10                  |             | %                 |                |
| Suggested Max Regrind                             | 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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