

# Tarnoform® 300 GF3

Acetal (POM) Copolymer

Grupa Azoty S.A.

## Message:

Tarnoform® 300 GF3 there is 15% glass fibres reinforced injection-moulding grade with increased strength and stiffness and with reduced shrinkage and coefficient of linear thermal expansion.

| General Information                         |                                    |                        |             |
|---------------------------------------------|------------------------------------|------------------------|-------------|
| Filler / Reinforcement                      | Glass Fiber,15% Filler by Weight   |                        |             |
| Features                                    | High Stiffness                     |                        |             |
|                                             | High Strength                      |                        |             |
|                                             | Low Shrinkage                      |                        |             |
| Uses                                        | Appliances                         |                        |             |
|                                             | Automotive Applications            |                        |             |
|                                             | Electrical/Electronic Applications |                        |             |
|                                             | Household Goods                    |                        |             |
| Appearance                                  | Black                              |                        |             |
|                                             | Colors Available                   |                        |             |
|                                             | Natural Color                      |                        |             |
| Forms                                       | Granules                           |                        |             |
| Processing Method                           | Injection Molding                  |                        |             |
| Physical                                    | Nominal Value                      | Unit                   | Test Method |
| Density                                     | 1.52                               | g/cm <sup>3</sup>      | ISO 1183    |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)   | 6.0                                | g/10 min               | ISO 1133    |
| Melt Volume-Flow Rate (MVR) (190°C/2.16 kg) | 5.50                               | cm <sup>3</sup> /10min | ISO 1133    |
| Molding Shrinkage                           |                                    |                        | ISO 294-4   |
| Across Flow : 2.00 mm                       | 1.6                                | %                      |             |
| Flow : 2.00 mm                              | 1.1                                | %                      |             |
| Water Absorption                            |                                    |                        | ISO 62      |
| Saturation, 23°C                            | 0.80                               | %                      |             |
| Equilibrium, 23°C, 50% RH                   | 0.17                               | %                      |             |
| Hardness                                    | Nominal Value                      | Unit                   | Test Method |
| Ball Indentation Hardness (H 358/30)        | 200                                | MPa                    | ISO 2039-1  |
| Mechanical                                  | Nominal Value                      | Unit                   | Test Method |
| Tensile Modulus                             | 6500                               | MPa                    | ISO 527-2/1 |
| Tensile Stress (Yield)                      | 100                                | MPa                    | ISO 527-2/5 |

|                                                   |                            |                   |                    |
|---------------------------------------------------|----------------------------|-------------------|--------------------|
| Tensile Strain (Break)                            | 2.5                        | %                 | ISO 527-2/5        |
| Flexural Modulus <sup>1</sup>                     | 5500                       | MPa               | ISO 178            |
| Flexural Stress <sup>2</sup>                      | 130                        | MPa               | ISO 178            |
| <b>Impact</b>                                     | <b>Nominal Value</b>       | <b>Unit</b>       | <b>Test Method</b> |
| Charpy Notched Impact Strength                    | 3.5                        | kJ/m <sup>2</sup> | ISO 179/1eA        |
| Charpy Unnotched Impact Strength                  | 35                         | kJ/m <sup>2</sup> | ISO 179/1eU        |
| Notched Izod Impact Strength                      | 4.5                        | kJ/m <sup>2</sup> | ISO 180            |
| <b>Thermal</b>                                    | <b>Nominal Value</b>       | <b>Unit</b>       | <b>Test Method</b> |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 160                        | °C                | ISO 75-2/A         |
| Vicat Softening Temperature                       | 155                        | °C                | ISO 306/B          |
| Melting Temperature                               | 167                        | °C                | ISO 11357-3        |
| CLTE                                              |                            |                   | ISO 11359-2        |
| Flow : 23 to 55°C                                 | 5.0E-5                     | cm/cm/°C          |                    |
| Transverse : 23 to 55°C                           | 8.0E-5                     | cm/cm/°C          |                    |
| Limit of Temperature - a few hours operation      | 100                        | °C                |                    |
| Burning Rate                                      | < 100                      | mm/min            | FMVSS 302          |
| ISO Type                                          | POM-K, M-GNR, 02-003, GF15 |                   | ISO 1874           |
| <b>Electrical</b>                                 | <b>Nominal Value</b>       | <b>Unit</b>       | <b>Test Method</b> |
| Surface Resistivity                               | 1.0E+13                    | ohms              | IEC 60093          |
| Volume Resistivity                                | 1.0E+14                    | ohms·cm           | IEC 60093          |
| Electric Strength (2.00 mm)                       | 25                         | kV/mm             | IEC 60243-1        |
| Dielectric Constant (1 Hz)                        | 4.20                       |                   | IEC 60250          |
| Dissipation Factor (1 Hz)                         | 9.5E-3                     |                   | IEC 60250          |
| Comparative Tracking Index (Solution A)           | 600                        | V                 | IEC 60112          |
| <b>Flammability</b>                               | <b>Nominal Value</b>       | <b>Unit</b>       | <b>Test Method</b> |
| Flame Rating (3.20 mm)                            | HB                         |                   | UL 94              |
| <b>Injection</b>                                  | <b>Nominal Value</b>       | <b>Unit</b>       |                    |
| Drying Temperature                                | 100 to 120                 | °C                |                    |
| Drying Time                                       | 2.0 to 4.0                 | hr                |                    |
| Suggested Max Moisture                            | < 0.10                     | %                 |                    |
| Suggested Max Re grind                            | 10                         | %                 |                    |
| Processing (Melt) Temp                            | 180 to 230                 | °C                |                    |
| Mold Temperature                                  | 80.0 to 110                | °C                |                    |
| Injection Pressure                                | 80.0 to 110                | MPa               |                    |
| Injection Rate                                    | Slow-Moderate              |                   |                    |
| <b>NOTE</b>                                       |                            |                   |                    |
| 1.                                                | 2.0 mm/min                 |                   |                    |
| 2.                                                | 2.0 mm/min                 |                   |                    |

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