

# Tarnoform® 500 UV

Acetal (POM) Copolymer

Grupa Azoty S.A.

## Message:

Tarnoform® 500 UV is the is the very easy flowing, fast cycling injection-moulding grade, modified with carbon black improving weather stability. This grade is available only in black colour.

| General Information                          |                         |                        |              |
|----------------------------------------------|-------------------------|------------------------|--------------|
| Additive                                     | Carbon Black            |                        |              |
| Features                                     | Fast Molding Cycle      |                        |              |
|                                              | Good Flow               |                        |              |
|                                              | Good Weather Resistance |                        |              |
| Uses                                         | Automotive Applications |                        |              |
|                                              | Thin-walled Parts       |                        |              |
| Appearance                                   | Black                   |                        |              |
| Forms                                        | Granules                |                        |              |
| Processing Method                            | Injection Molding       |                        |              |
| Physical                                     | Nominal Value           | Unit                   | Test Method  |
| Density                                      | 1.41                    | g/cm <sup>3</sup>      | ISO 1183     |
| Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)    | 23                      | g/10 min               | ISO 1133     |
| Melt Volume-Flow Rate (MVR) (190°C/2.16 kg)  | 21.0                    | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage - Flow (2.00 mm)           | 2.0                     | %                      | ISO 294-4    |
| Water Absorption (Equilibrium, 23°C, 50% RH) | 0.20                    | %                      | ISO 62       |
| Hardness                                     | Nominal Value           | Unit                   | Test Method  |
| Ball Indentation Hardness (H 358/30)         | 145                     | MPa                    | ISO 2039-1   |
| Mechanical                                   | Nominal Value           | Unit                   | Test Method  |
| Tensile Modulus                              | 2650                    | MPa                    | ISO 527-2/1  |
| Tensile Stress (Yield)                       | 56.0                    | MPa                    | ISO 527-2/50 |
| Tensile Strain                               |                         |                        | ISO 527-2/50 |
| Yield                                        | 7.5                     | %                      |              |
| Break                                        | 45                      | %                      |              |
| Flexural Modulus <sup>1</sup>                | 2300                    | MPa                    | ISO 178      |
| Flexural Stress <sup>2</sup>                 | 60.0                    | MPa                    | ISO 178      |
| Impact                                       | Nominal Value           | Unit                   | Test Method  |
| Charpy Notched Impact Strength               | 3.5                     | kJ/m <sup>2</sup>      | ISO 179/1eA  |
| Charpy Unnotched Impact Strength             | 150                     | kJ/m <sup>2</sup>      | ISO 179/1eU  |

| Notched Izod Impact Strength                      | 4.0                  | kJ/m <sup>2</sup> | ISO 180     |
|---------------------------------------------------|----------------------|-------------------|-------------|
| Thermal                                           | Nominal Value        | Unit              | Test Method |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 105                  | °C                | ISO 75-2/A  |
| Vicat Softening Temperature                       | 145                  | °C                | ISO 306/B   |
| Melting Temperature                               | 167                  | °C                | ISO 11357-3 |
| CLTE - Flow (23 to 55°C)                          | 1.1E-4               | cm/cm/°C          | ISO 11359-2 |
| Limit of Temperature - a few hours operation      | 100                  | °C                |             |
| Burning Rate                                      | < 100                | mm/min            | FMVSS 302   |
| ISO Type                                          | POM-K, M-GLR, 05-002 |                   | ISO 1874    |
| Electrical                                        | Nominal Value        | Unit              | Test Method |
| Surface Resistivity                               | 1.0E+14              | ohms              | IEC 60093   |
| Volume Resistivity                                | 1.0E+15              | ohms·cm           | IEC 60093   |
| Electric Strength (2.00 mm)                       | 25                   | kV/mm             | IEC 60243-1 |
| Dielectric Constant (1 Hz)                        | 3.90                 |                   | IEC 60250   |
| Dissipation Factor (1 Hz)                         | 8.5E-3               |                   | IEC 60250   |
| Comparative Tracking Index (Solution A)           | 600                  | V                 | IEC 60112   |
| Flammability                                      | Nominal Value        | Unit              | Test Method |
| Flame Rating (3.20 mm)                            | HB                   |                   | UL 94       |
| Injection                                         | Nominal Value        | Unit              |             |
| Drying Temperature                                | 100 to 120           | °C                |             |
| Drying Time                                       | 2.0 to 4.0           | hr                |             |
| Suggested Max Moisture                            | < 0.10               | %                 |             |
| Suggested Max Regrind                             | 10                   | %                 |             |
| Processing (Melt) Temp                            | 180 to 230           | °C                |             |
| Mold Temperature                                  | 60.0 to 120          | °C                |             |
| Injection Pressure                                | 60.0 to 120          | MPa               |             |
| Injection Rate                                    | Slow-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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