

# TECHNYL® A 218 S30 NATURAL

Polyamide 66  
Solvay Engineering Plastics

Message:

TECHNYL® A 218 S30 Natural is a Polyamide PA66, reinforced with 40% of glass spheres, Heat stabilised, for injection moulding. This grade offers an excellent combination between thermal and mechanical properties.

| General Information       |      |                                            |                   |              |
|---------------------------|------|--------------------------------------------|-------------------|--------------|
| Filler / Reinforcement    |      | Glass beads, 30% filler by weight          |                   |              |
| Additive                  |      | heat stabilizer                            |                   |              |
| Features                  |      | Heat Stabilized - Inorganic                |                   |              |
|                           |      | Low warpage                                |                   |              |
|                           |      | Good demoulding performance                |                   |              |
| Uses                      |      | Application in Automobile Field            |                   |              |
| Agency Ratings            |      | EC 1907/2006 (REACH)                       |                   |              |
| RoHS Compliance           |      | RoHS compliance                            |                   |              |
| Appearance                |      | Black                                      |                   |              |
|                           |      | Natural color                              |                   |              |
| Forms                     |      | Particle                                   |                   |              |
| Processing Method         |      | Injection molding                          |                   |              |
| Multi-Point Data          |      | Isothermal Stress vs. Strain (ISO 11403-1) |                   |              |
| Resin ID (ISO 1043)       |      | PA66-GB30                                  |                   |              |
| Physical                  | Dry  | Conditioned                                | Unit              | Test Method  |
| Density                   | 1.35 | --                                         | g/cm <sup>3</sup> | ISO 1183/A   |
| Water Absorption          |      |                                            |                   | ISO 62       |
| 23°C, 24 hr               | 0.75 | --                                         | %                 | ISO 62       |
| Equilibrium, 23°C, 50% RH | 1.6  | --                                         | %                 | ISO 62       |
| Mechanical                | Dry  | Conditioned                                | Unit              | Test Method  |
| Tensile Modulus (23°C)    | 5000 | 2500                                       | MPa               | ISO 527-2/1A |
| Tensile Stress            |      |                                            |                   | ISO 527-2/1A |
| Yield, 23°C               | 80.0 | --                                         | MPa               | ISO 527-2/1A |
| Fracture, 23°C            | 80.0 | 60.0                                       | MPa               | ISO 527-2/1A |
| Tensile Strain            |      |                                            |                   | ISO 527-2    |
| Yield, 23°C               | 3.6  | --                                         | %                 | ISO 527-2    |
| Fracture, 23°C            | 7.0  | 10                                         | %                 | ISO 527-2    |
| Flexural Modulus (23°C)   | 3850 | 1900                                       | MPa               | ISO 178      |
| Impact                    | Dry  | Conditioned                                | Unit              | Test Method  |

|                                                   |                      |             |                   |             |
|---------------------------------------------------|----------------------|-------------|-------------------|-------------|
| Charpy Notched Impact Strength (23°C)             | 3.5                  | 5.0         | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy Unnotched Impact Strength (23°C)           | 30 kJ/m <sup>2</sup> | No Break    |                   | ISO 179/1eU |
| Notched Izod Impact (23°C)                        | 2.5                  | 5.0         | kJ/m <sup>2</sup> | ISO 180     |
| Thermal                                           | Dry                  | Conditioned | Unit              | Test Method |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 95.0                 | --          | °C                | ISO 75-2/Af |
| Melting Temperature                               | 263                  | --          | °C                | ISO 11357-3 |
| Electrical                                        | Dry                  | Conditioned | Unit              | Test Method |
| Surface Resistivity                               | 5.0E+14              | --          | ohms              | IEC 60093   |
| Volume Resistivity                                | 5.0E+14              | --          | ohms·cm           | IEC 60093   |
| Dielectric Strength (2.00 mm)                     | 30                   | 26          | kV/mm             | IEC 60243-1 |
| Dissipation Factor                                | 0.020                | 0.11        |                   | IEC 60250   |
| Comparative Tracking Index (Solution A)           | 450                  | --          | V                 | IEC 60112   |
| Flammability                                      | Dry                  | Conditioned | Unit              | Test Method |
| Oxygen Index                                      | 25                   | --          | %                 | ISO 4589-2  |
| Injection                                         | Dry                  | Unit        |                   |             |
| Drying Temperature                                | 80                   |             | °C                |             |
| Suggested Max Moisture                            | 0.20                 |             | %                 |             |
| Rear Temperature                                  | 270 - 280            |             | °C                |             |
| Middle Temperature                                | 275 - 285            |             | °C                |             |
| Front Temperature                                 | 280 - 290            |             | °C                |             |
| Mold Temperature                                  | 70 - 100             |             | °C                |             |
| Injection instructions                            |                      |             |                   |             |

The material is supplied in airtight bags, ready for use. In case that the virgin material has absorbed moisture, it must be dried with a dehumidified air drying equipment, dew point mini -20°C. Recommended time 2-4h

Injection Advice:

For reinforced polyamide, Solvay recommends the use of steel with a high content of Carbon and purified for polishing to avoid or limit the abrasion.

For example: X38CrMoV5-1 (EN Norm) - 1.2367 /1.2343 (DIN Norm) or X160CrMoV12 (EN Norm) - 1.2601 /1.2379 (DIN Norm). For Mould Temperature, in the case of parts where the surface roughness is required we can recommend a temperature of 90°C to 120°C with an optimum at 105°C.

The processing parameters like processing temperatures are a recommendation and can be adjusted in function of injection machine size, part geometry / design

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