

# TECHNYL® B 216 BLACK 3N

Polyamide 66/6 Copolymer  
Solvay Engineering Plastics

Message:

TECHNYL® B 216 Black 3N is an unreinforced copolyamide 66/6, medium viscosity, for injection moulding. This grade offers an excellent combination between impact resistance, rigidity, thermal resistance and surface appearance.

| General Information            |      |                                  |                   |              |
|--------------------------------|------|----------------------------------|-------------------|--------------|
| UL YellowCard                  |      | E44716-235606                    |                   |              |
| Features                       |      | Good liquidity                   |                   |              |
|                                |      | Good demoulding performance      |                   |              |
|                                |      | Excellent appearance             |                   |              |
| Uses                           |      | Industrial application           |                   |              |
|                                |      | Application in Automobile Field  |                   |              |
|                                |      | General                          |                   |              |
|                                |      | Consumer goods application field |                   |              |
| Agency Ratings                 |      | EC 1907/2006 (REACH)             |                   |              |
| RoHS Compliance                |      | RoHS compliance                  |                   |              |
| Appearance                     |      | Black                            |                   |              |
|                                |      | Grey                             |                   |              |
|                                |      | Natural color                    |                   |              |
| Forms                          |      | Particle                         |                   |              |
| Processing Method              |      | Injection molding                |                   |              |
| Resin ID (ISO 1043)            |      | PA66/6                           |                   |              |
| Physical                       | Dry  | Conditioned                      | Unit              | Test Method  |
| Density                        | 1.14 | --                               | g/cm <sup>3</sup> | ISO 1183/A   |
| Water Absorption (23°C, 24 hr) | 1.6  | --                               | %                 | ISO 62       |
| Mechanical                     | Dry  | Conditioned                      | Unit              | Test Method  |
| Tensile Modulus (23°C)         | 3000 | 1100                             | MPa               | ISO 527-2/1A |
| Tensile Stress                 |      |                                  |                   | ISO 527-2/1A |
| Yield, 23°C                    | 85.0 | 50.0                             | MPa               | ISO 527-2/1A |
| Fracture, 23°C                 | 75.0 | 60.0                             | MPa               | ISO 527-2/1A |
| Tensile Strain                 |      |                                  |                   | ISO 527-2    |
| Yield, 23°C                    | 3.6  | 25                               | %                 | ISO 527-2    |
| Fracture, 23°C                 | 30   | --                               | %                 | ISO 527-2    |
| Flexural Modulus (23°C)        | 3000 | 1200                             | MPa               | ISO 178      |
| Flexural Stress (23°C)         | 125  | 50.0                             | MPa               | ISO 178      |

| Impact                                            | Dry       | Conditioned | Unit              | Test Method |
|---------------------------------------------------|-----------|-------------|-------------------|-------------|
| Charpy Notched Impact Strength (23°C)             | 5.0       | 16          | kJ/m <sup>2</sup> | ISO 179/1eA |
| Charpy Unnotched Impact Strength (23°C)           | No Break  | --          |                   | ISO 179/1eU |
| Notched Izod Impact (23°C)                        | 5.0       | 16          | kJ/m <sup>2</sup> | ISO 180     |
| Thermal                                           | Dry       | Conditioned | Unit              | Test Method |
| Heat Deflection Temperature (1.8 MPa, Unannealed) | 67.0      | --          | °C                | ISO 75-2/Af |
| Melting Temperature                               | 242       | --          | °C                | ISO 11357-3 |
| Electrical                                        | Dry       | Conditioned | Unit              | Test Method |
| Surface Resistivity                               | 1.0E+15   | 1.0E+14     | ohms              | IEC 60093   |
| Volume Resistivity                                | 1.0E+15   | 1.0E+15     | ohms·cm           | IEC 60093   |
| Dielectric Strength (2.00 mm)                     | 26        | 24          | kV/mm             | IEC 60243-1 |
| Relative Permittivity                             | 3.00      | 3.20        |                   | IEC 60250   |
| Dissipation Factor                                | 0.030     | 0.10        |                   | IEC 60250   |
| Comparative Tracking Index                        |           |             |                   | IEC 60112   |
| Solution a                                        | 600       | 600         | V                 | IEC 60112   |
| Solution B                                        | 575       | --          | V                 | IEC 60112   |
| Flammability                                      | Dry       | Conditioned | Unit              | Test Method |
| Flame Rating                                      |           |             |                   | UL 94       |
| 1.6 mm                                            | HB        | --          |                   | UL 94       |
| 3.2 mm                                            | V-2       | --          |                   | UL 94       |
| Oxygen Index                                      | 24        | --          | %                 | ISO 4589-2  |
| Injection                                         | Dry       | Unit        |                   |             |
| Drying Temperature                                | 80        |             | °C                |             |
| Suggested Max Moisture                            | 0.20      |             | %                 |             |
| Rear Temperature                                  | 250 - 260 |             | °C                |             |
| Middle Temperature                                | 255 - 265 |             | °C                |             |
| Front Temperature                                 | 265 - 275 |             | °C                |             |
| Mold Temperature                                  | 60 - 80   |             | °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 unfilled polyamide, Solvay recommends the use of high alloy steel with a weak chromium content. For example: X38CrMoV5-1 (EN Norm) - 1.2367 /1.2343 (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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## 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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