

ISSUED: 02/04/2018

ISO 9001 CERTIFIED

Promyde B300 P2 G35 is a high flow Polyamide 6 for injection moulding with 35% glass fibre and heat stabilized.

| PROPERTIES | CONDITIONS | TEST METHOD | UNITS | VALUES |
|---|-----------------------------|----------------|-------------------------|-------------------------------------|
| PHYSICAL PROPERTIES | | | | |
| Density | 23 °C | ISO 1183 | g/cm ³ | 1,4 |
| Moisture absorption | 23 °C / 50% r.h. | ISO 62 | % | 2 |
| Water absorption | 23 °C / saturation in water | ISO 62 | % | 6,2 |
| Flammability | 1,5 mm | UL-94 | | HB |
| PROCESSING CONDITIONS | | | | |
| Melt Volume rate | 275°C/5 kg | ISO 1133 | cm ³ /10 min | 80 |
| Spiral length vs. standard PA | | | % | > 100 |
| Melt temperature, injection moulding | | | °C | 235-260 |
| Mould temperature | | | °C | 40-80 |
| Moulding Shrinkage | longitudinal transversal | | % | 0,30-0,35 0,40-0,45 |
| MECHANICAL PROPERTIES (dry/cond.)* | | | | |
| Tensile modulus | 23 °C, 1 mm/min | ISO 527-1-2 | MPa | 11.600 / 8.000 |
| Tensile strength | 23 °C, 50 mm/min | ISO 527-1-2 | MPa | 200/ 135 |
| Elongation at yield | 23 °C, 50 mm/min | ISO 527-1-2 | % | - / - |
| Elongation at break | 23 °C, 50 mm/min | ISO 527-1-2 | % | 3 / 4 |
| Flexural modulus | 23 °C, 2 mm/min | ISO 178 | MPa | 10.000 / 6.200 |
| Flexural strength | 23 °C, 2 mm/min | ISO 178 | MPa | 300 / 190 |
| Charpy unnotched impact strength | 23°C -30°C | ISO 179/1eU | kJ/m ² | 90 / 100 - / - |
| Charpy notched impact strength | 23°C -30°C | ISO 179/1eA | kJ/m ² | 15 / 25 - / - |
| THERMAL PROPERTIES | | | | |
| Melting temperature (DSC) | 10°C/min | ISO 3146 | °C | 222 |
| Heat Deflection Temperature (HDT) | 1,8 MPa | ISO 75-1-2 | °C | 213 |
| | 0,45 MPa | | | 215 |
| Thermal coefficient of linear expansion | 23-80°C long. | ISO 11359-1/-2 | 10 ⁻⁴ /K | 0,18 |
| | 23-80°C transv. | | | 0,6 |
| ELECTRICAL PROPERTIES (dry/cond.)* | | | | |
| Dielectric constant | 1MHz | IEC 60250 | | 3,8 / 6,5 |
| Dissipation factor | 1 MHz | IEC 60250 | 10 ⁻⁴ | 230 / 2.200 |
| Volume resistivity | | IEC 60093 | Ω.m | 10 ¹³ / 10 ¹⁰ |
| Surface resistivity | | IEC 60093 | Ω | 10 ¹³ / 10 ¹⁰ |
| Comparative tracking index | | IEC 60112 | | 500 |

* dry = dry as moulded / cond.= conditioned according to ISO 1110

CHARACTERISTICS

The outstanding flow properties of Promyde B300 P2 G35 allow a reduction in molding temperature. This has two advantages: the cycle time is shorter and less energy is needed in injection molding. Because Promyde B300 P2 G35 has better flow, lower injection pressure is needed which reduces the clamping force, longer flow paths are possible and the mold is easier to design.

APPLICATIONS

The flow properties of Promyde B300 P2 G35 combined with its excellent mechanical and thermal properties make it suitable for a **wide range of industrial, automotive and electrical applications, especially in long flow path and thin wall parts.**

Glass-fibre reinforced grades are suitable for housings, supports, industrial articles and electrical insulating parts.

FORMAT AND STORAGE

Promyde B300 P2 G35 is supplied in moisture-proof packaging. Typical formats are Big Bag, octabin, and 25kg bags. All containers are perfectly sealed. The product should be stored in a dry place and opened just before processing.

PROCESSING GUIDELINES

Drying

Material is supplied ready to process with a low moisture content. When moisture absorption is prevented drying is not required. When drying is necessary, conditions are:

Drying temperature ≤ 80 °C

Drying time: 4-6 hours

Injection moulding

The recommended processing parameters for injection moulding are:

Melt temperature: 235-260°C

Mould temperature: 40-80 °C

Injection speed: medium to high

Back pressure: moderate

Shrinkage

The shrinkage of a moulded part is influenced by wall thickness, mould gating, and moulding conditions.

Moisture

A particular characteristic of reinforced polyamide 6 is its combination of moderate tensile and flexural strength with rigidity, good impact strength, and friction resistance. However, when a moulded part absorbs moisture, tensile and flexural strength decrease and toughness increases.

NOTE

All recommendations are based on knowledge and experience; The values have been established on standardized tests. The figures should be regarded as guide values and not as binding minimum values. As many factors may affect processing or applications, we recommend that customers make their own tests to determine the suitability of a product for its particular use.