

ISSUED: SEPTEMBER 2019

ISO 9001

Promyde **B300 P2 G60 S** is a high flow Polyamide 6 injection moulding grade with 60% Glass fibre and heat stabilized. Special for those applications that need special surface finish.

PROPERTIES	CONDITIONS	TEST METHOD	UNITS	VALUES
<b>PHYSICAL PROPERTIES</b>				
Density	23 °C	ISO 1183	g/cm <sup>3</sup>	1,69
Moisture absorption	23 °C / 50% r.h.	ISO 62	%	1,2
Water absorption	23 °C / saturation in water	ISO 62	%	4,5
Flammability	1,5 mm	UL-94		HB
<b>PROCESSING CONDITIONS</b>				
Melt Volume rate	275°C/5 kg	ISO 1133	cm <sup>3</sup> /10 min	35
Spiral length vs. standard PA			%	> 80
Melt temperature, injection moulding			°C	235-270
Mould temperature			°C	40-80
Mould Shrinkage	Parallel Normal	ISO 294-4	%	0,2-0,25 0,3-0,35
<b>MECHANICAL PROPERTIES</b> (dry/cond.)*				
Tensile modulus	23 °C, 1 mm/min	ISO 527-1-2	MPa	21.000 / 17.000
Tensile strength	23 °C, 50 mm/min	ISO 527-1-2	MPa	240/ 190
Elongation at yield	23 °C, 50 mm/min	ISO 527-1-2	%	- / -
Elongation at break	23 °C, 50 mm/min	ISO 527-1-2	%	2,5/ 2,1
Flexural modulus	23 °C, 2 mm/min	ISO 178	MPa	19.700 / 14.400
Flexural strength	23 °C, 2 mm/min	ISO 178	MPa	406 / 300
Charpy unnotched impact strength	23°C -30°C	ISO 179/1eU	kJ/m <sup>2</sup>	110 / 130 - / -
Charpy notched impact strength	23°C -30°C	ISO 179/1eA	kJ/m <sup>2</sup>	22 / 30 - / -
<b>THERMAL PROPERTIES</b>				
Melting temperature (DSC)	10°C/min	ISO 3146	°C	222
Heat Deflection Temperature (HDT)	1,8 MPa	ISO 75-1-2	°C	220
	0,45 MPa			220
Thermal coefficient of linear expansion	23-85°C long. 23-85°C transv.	ISO 11359-1/-2	10 <sup>-4</sup> /K	0,13 0,50
<b>ELECTRICAL PROPERTIES</b> (dry/cond.)*				
Volume resistivity		IEC 60093	Ω.m	10 <sup>13</sup> / 10 <sup>11</sup>
Surface resistivity		IEC 60093	Ω	10 <sup>12</sup> / 10 <sup>10</sup>
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 G60 S** 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 G60 S** 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. It is also specially formulated to obtain a smoother surface finish, when compared to regular glass fiber reinforced grades.

## APPLICATIONS

The flow properties of **Promyde B300 P2 G60 S** 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 G60 S** 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 low moisture content. When moisture absorption is prevented drying is not required. When drying is necessary, conditions are:

Drying temperature  $\leq 80$  °C

Drying time: 4-6 hours

### Injection moulding

The recommended processing parameters for injection moulding are:

Melt temperature: 235-270°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.