

ISSUED: 20/06/2018

ISO 9001 CERTIFIED

Promyde B30 NC100 is a polyamide 6 fortified with nano clay technology. It is heat stabilized, lubricated and ready for injection molding.

PROPERTIES	CONDITIONS	TEST METHOD	UNITS	VALUES
PHYSICAL PROPERTIES				
Density	23 °C	ISO 1183	g/cm ³	1,14
Viscosity number	(0,005 g/ml H ₂ SO ₄)	ISO 960D	ml/g	132
Moisture absorption	23 °C / 50% r.h.	ISO 62	%	2,3
Water absorption	23 °C / saturation in water	ISO 62	%	7
Flammability	1,5 mm	UL-94		V-2
PROCESSING CONDITIONS				
Melt Volume Rate	275°C/5 kg	ISO 1133	cm ³ /10 min	145
Melt temperature, injection moulding			°C	250-270
Mould temperature			°C	20-80
Moulding Shrinkage	Long. Trans.		%	0.7-0.85 0.8-0.9
MECHANICAL PROPERTIES (dry / cond.)*				
Tensile modulus	23 °C, 1 mm/min	ISO 527-1-2	MPa	4.000 / 2.000
Tensile strength	23 °C, 50 mm/min	ISO 527-1-2	MPa	100 / 52
Elongation at yield	23 °C, 50 mm/min	ISO 527-1-2	%	3,5 / 25
Elongation at break	23 °C, 50 mm/min	ISO 527-1-2	%	4 / > 25
Flexural modulus	23 °C, 2 mm/min	ISO 178	MPa	3.500 / 1.400
Flexural strength	23 °C, 2 mm/min	ISO 178	MPa	130 / 70
Charpy unnotched impact strength ¹⁾	23°C	ISO 179/1eU	kJ/m ²	NB / NB
Charpy notched impact strength	23°C	ISO 179/1eA	kJ/m ²	4,3 / 10
THERMAL PROPERTIES				
Melting temperature (DSC)	10°C/min	ISO 3146	°C	222
Vicat softening temperature	50N, 50°C/h	ISO 306	°C	202
Heat Deflection Temperature (HDT)	1,8 MPa	ISO 75-1-2	°C	100
	0,45 MPa			195
Thermal coefficient of linear expansion	23-80°C long.	ISO 11359-1/-2	10 ⁻⁴ /K	0,3
	23-80°C transv.			0,8
ELECTRICAL PROPERTIES (dry/cond.)*				
Dielectric constant	1MHz	IEC 60250		3,6 / 6,5
Dissipation factor	1 MHz	IEC 60250		250 / 2.500
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

1) NB: No break.

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

CHARACTERISTICS

Promyde B30 NC100 is a polyamide 6 heat stabilized, lubricated and nucleated for **fast cycle injection moulding**.

The incorporation of nano clay particles gives a product 20% stronger than conventional unfilled PA6, or PA66.

APPLICATIONS

Promyde B30 NC100 provides significant weight reduction advantages over glass filled, glass bead filled, and mineral filled PA6, and PA66. Promyde B30 NC100 processes similarly to standard unfilled PA6 and can be used in PA66 moulds.

Promyde B30 NC100 is suitable for PA66 applications where temperature is not critical, as a lighter alternative to mineral filled and glass bead filled polyamides, and parts where dimensional stability is vital.

FORMAT AND STORAGE

Promyde B30 NC100 is supplied in moisture-proof packaging. Typical formats are Big Bags, Octabins, 25kg bags and bulk silo trucks. 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: 250-270°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 unreinforced 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.