Promyde®
PROGRESSING POLYAMIDE

TECHNICAL DATA SHEET

B20 P

ISSUED: 15/05/2015 **ISO 9001 CERTIFIED**

Promyde B20 P is a Polyamide 6 heat stabilized, nucleated and lubricated.

PROPERTIES	CONDITIONS	TEST METHOD	UNITS	VALUES
PHYSICAL PROPERTIES				
Density	23 ºC	ISO 1183	g/cm^3	1,13
Viscosity Number	25 ºC	ISO 307	cm^3/g	130
Moisture absorption	23 ºC / 50% r.h.	ISO 62	%	3
Water absorption	23 ºC / saturation in water	ISO 62	%	9,5
Flammability	1,5 mm	UL-94		V-2
Glow wire flammability index	1,5 mm	IEC 60695-2-12,13	ºC	850
Glow wire ignitability temperature	1,5 mm	IEC 60695-2-12,13	ºC	700
PROCESSING CONDITIONS				
Melt Volume Rate	275ºC/5 kg	ISO 1133	cm^3/10 min	226
Melt temperature, injection moulding			ºC	250-270
Mould temperature			ºC	40-80
Moulding Shrinkage	longitudinal transversal		%	0,9-1,1 0,8-1,1
MECHANICAL PROPERTIES				(dry/cond.)*
Tensile modulus	23 ºC, 1 mm/min	ISO 527-1/-2	MPa	3.300 / 1.100
Tensile strength	23 ºC, 50 mm/min	ISO 527-1/-2	MPa	85 / 40
Elongation at yield	23 ºC, 50 mm/min	ISO 527-1/-2	%	3,5 / 25
Elongation at break	23 ºC, 50 mm/min	ISO 527-1/-2	%	18 / > 50
Flexural modulus	23 ºC, 2 mm/min	ISO 178	MPa	2.800 / 1.000
Flexural strength	23 ºC, 2 mm/min	ISO 178	MPa	110 / 30
Charpy unnotched impact strength [1)]	23ºC -30ºC	ISO 179/1eU	kJ/m^2	NB / NB 320 / -
Charpy notched impact strength	23ºC -30ºC	ISO 179/1eA	kJ/m^2	5,0 / 30 4,5 / -
THERMAL PROPERTIES				
Melting temperature (DSC)	10ºC/min	ISO 3146	ºC	222
Heat Deflection Temperature (HDT)	1,8 MPa 0,45 MPa	ISO 75-1/-2	ºC	65 187
Thermal coefficient of linear expansion	23-80ºC long. 23-80ºC transv.	ISO 11359-1/-2	10^{-4}/K	0,7 1
ELECTRICAL PROPERTIES				(dry/cond.)*
Dielectric constant	1MHz	IEC 60250		3,5 / 7
Dissipation factor	1 MHz	IEC 60250		300 / 3.000
Volume resistivity		IEC 60093	Ω.m	10^{13} / 10^{10}
Surface resistivity		IEC 60093	Ω	10^{13} / 10^{10}
Comparative tracking index		IEC 60112		600

1) NB: No break.
* dry = dry as moulded / cond.= conditioned according to ISO 1110

Nurel S.A.
Ctra. Barcelona km 329
50016 Zaragoza. Spain
T +34 976 465 579
F +34 976 574 108
www.promyde.com

CHARACTERISTICS

Promyde B20 P is a polyamide 6 heat stabilized, lubricated and nucleated for **fast cycle and technical injection moulding**.

Its main characteristics are **easy flowing, easy mould filling and very fast cooling time** whilst maintaining excellent polyamide 6 mechanical properties.

APPLICATIONS

Due to its easy flow characteristics and very fast cooling time;

Promyde B20 P provides significant **productivity improvement**. Promyde B20 P mould filling is **35 % faster** than standard viscosity polyamide 6; that combined with its excellent mechanical and thermal properties make it suitable for high speed multi cavity injection moulding for parts such as components used in automotive, electrical, electronics, curtain systems, and also for large technical parts produced in single cavity moulds.

FORMAT AND STORAGE

Promyde B20 P 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 ºC

Dying time: 4-6 hours

Injection moulding

The recommended processing parameters for injection moulding are:

Melt temperature: 250-270ºC

Mould temperature: 40-80 ºC

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.

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