HIGH PERFORMANCE THERMOPLASTICS LATI

DATA SHEET

LATAMID 6 H2 G/20-V0

Polyamide 6 (PA 6).

Heat stabilised. Glass fibres.

UL94 V-0 classified, with halogens, PBB/PBDE and antimonium trioxide free.

PHYSICAL PROPERTIES - Typical values	STANDARDS	SI UNITS
Density	ISO 1183	1.45 g/cm³
Linear shrinkage at moulding - 2.0 mm th. (at 60 MPa of cavity pressure)		
Longitudinal	ISO 294-4	0.50 ÷ 0.90 %
Transversal	ISO 294-4	0.70 ÷ 1.10 %
MECHANICAL PROPERTIES - Typical values		
IZOD impact strength (sample 63.5x12.7x3.2 mm)		
Notched, at +23°C	ASTM D256-A	50 J/m
CHARPY impact strength (sample 80x10x4 mm)		
Unnotched, at +23°C	ISO 179-1eU	50 kJ/m²
Notched, at +23°C	ISO 179-1eA	6 kJ/m²
Tensile elongation (speed 5 mm/min)		
At yield, 23°C	ISO 527 (1)	- %
At yield, 60°C	ISO 527 (1)	- %
At yield, 90°C	ISO 527 (1)	1.7 %
At yield, 120°C	ISO 527 (1)	2 %
At yield, 150°C	ISO 527 (1)	2 %
At break, 23°C	ISO 527 (1)	1 %
At break, 60°C	ISO 527 (1)	1.2 %
At break, 90°C	ISO 527 (1)	2 %
At break, 120°C	ISO 527 (1)	2.5 %
At break, 150°C	ISO 527 (1)	5 %
Tensile strength (speed 5 mm/min)		
At yield, 23°C	ISO 527 (1)	- MPa
At yield, 60°C	ISO 527 (1)	- MPa
At yield, 90°C	ISO 527 (1)	30 MPa
At yield, 120°C	ISO 527 (1)	25 MPa
At yield, 150°C	ISO 527 (1)	20 MPa
At break, 23°C	ISO 527 (1)	55 MPa
At break, 60°C	ISO 527 (1)	40 MPa
At break, 90°C	ISO 527 (1)	25 MPa
At break, 120°C	ISO 527 (1)	20 MPa
At break, 150°C	ISO 527 (1)	10 MPa
Elastic modulus		
Tensile (speed 1 mm/min), at 23°C	ISO 527 (1)	8000 MPa
Tensile (speed 1 mm/min), at 60°C	ISO 527 (1)	6500 MPa
Tensile (speed 1 mm/min), at 90°C	ISO 527 (1)	3600 MPa
Tensile (speed 1 mm/min), at 120°C	ISO 527 (1)	3000 MPa
Tensile (speed 1 mm/min), at 150°C	ISO 527 (1)	2400 MPa
THERMAL PROPERTIES - Typical values		
Coefficient of linear thermal expansion (CLTE)		
+30°C to +100°C (longitudinal)	ASTM D 696	20 $\times 10^{-6}$ K^{-1}
VICAT - Softening point		
49 N (heating rate 50°C/h)	ISO 306	210 °C
HDT - Heat Deflection Temperature		
0.45 MN/m²	ISO 75	215 °C
1.81 MN/m²	ISO 75	200 °C
C.U.T. - Continuous Use Temperature (20,000h)	---	85 °C
FLAMMABILITY - Typical values		
Oxygen Index	ASTM D 2863	27 %
Flammability rating		
3.00 mm thickness	UL 94	V-0 rating
1.50 mm thickness	UL 94	V-0 rating
GWFI - Glow Wire Flammability Index		
	IEC 695-2-12	GWFI: 960/1.0 °C/mm
	IEC 695-2-12	GWFI: 960/2.0 °C/mm
GWIT - Glow Wire Ignition Test		
	IEC 695-2-13	GWIT: 775/1.0 °C/mm
	IEC 695-2-13	GWIT: 800/2.0 °C/mm
ELECTRICAL/MAGNETIC PROPERTIES - Typical values		
CTI - Comparative Tracking Index		
solution A (without surfactant)	IEC 112	300 V

NOTES

Specimens were obtained from representitive samples of the above described material.
Specimens moulded by injection in accurately controlled conditions are then conditioned according to the practice ASTM D618 - procedure A (40hrs/23°C/50%R.H.).
The above listed properties may be subjected to variations and therefore cannot be adopted as specifications.

Customer should always make sure of having the most recent copy of the publication.
In addition, the same properties may be influenced by several factors, like moulding techniques used and the size and the shape of the moulded part. Therefore, the contents of this publication does not imply that all the moulded parts will have the same properties as indicated in the data sheet itself.
Customer should always check the property values on the moulded parts.
The material has not to be considered suitable for specific applications in medical sector.
The material has not to be considered suitable for potable water and/or food contact.

LATAMID 6 H2 G/20-V0

Polyamide 6 (PA 6).
Heat stabilised. Glass fibres.

PREDRYING CONDITIONS — At least 3 hours at 90 ÷ 100°C

These are the suggested conditions to reduce the moisture content to adequate levels.
Temperature and drying time are reduced when using vacuum ovens.
A particularly wet material may need longer drying time.

ACTUAL MELT TEMPERATURE — 240 ÷ 250°C

The injection machine settings needed to obtain the suggested melt temperature will depend greatly on shot size and machine capacity, as well as other molding parameters such as: injection speed, screw RPM, back pressure, etc.
On small machines, running short cycles, it is possible to use higher melt temperatures to improve plastification, fluidity and surface appearance, paying attention to any indication of material degradation.

MOULD TEMPERATURE — 70 ÷ 100°C

The mold temperature suggested above is the actual steel temperature. This can be significantly different from the tool settings, due to the cooling system efficiency and the accuracy of the temperature control on the tool.

INJECTION SPEED — Medium

The advisable injection speed greatly depends on cavity geometry and injection machine size. The use of high injection speed can improve the surface appearance, but it can also cause outgassing and burn marks due to overheating through shear stress.

REGRIND USAGE

The use of regrind is possible, but should be assessed on the basis of the project, moulding parameters, and type of grinding. The effect of using regrind on material properties must be evaluated by the customer on its specific project and process.
High percentages of regrind can cause a reduction in viscosity and fibre length, reducing mechanical properties.

HOT RUNNER MOULDS

Hot runner moulds are not recommended, but can be used when a very tight temperature control is assured and the cycle time is short.

TO AVOID

Shut-off nozzles and internally heated hot runners have to be avoided.
In order to prevent any material degradation, over-dimensioned machines should be avoided.