

LATISTAT 52/7-02

Dissipative product based on Polypropylene homopolymer (PPh).

PHYSICAL PROPERTIES - Typical values		
	STANDARD	VALUE MEASURE UNITS
Density	ISO 1183	0.95 g/cm ³
Linear shrinkage at moulding - 2.0 mm thickness (at 60 MPa of cavity pressure)		
Longitudinal	ISO 294-4	1.50 ÷ 1.80 %
Transversal	ISO 294-4	1.55 ÷ 1.85 %
MECHANICAL PROPERTIES - Typical values		
IZOD impact strength (sample 63.5x12.7x3.2 mm)		
Notched, at +23°C	ASTM D 256-A	20 J/m
CHARPY impact strength (sample 80x10x4 mm)		
Unnotched, at +23°C	ISO 179-1eU	25 kJ/m ²
Notched, at +23°C	ISO 179-1eA	2 kJ/m ²
Tensile elongation (speed 5 mm/min)		
At yield, 23°C	ISO 527 (1)	2 %
At break, 23°C	ISO 527 (1)	3.5 %
Tensile strength (speed 5 mm/min)		
At break, 23°C	ISO 527 (1)	35 MPa
Elastic modulus		
Tensile (speed 1 mm/min), at 23°C	ISO 527 (1)	2700 MPa

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THERMAL PROPERTIES - Typical values	STANDARD	VALUE MEASURE UNITS
VICAT - Softening point		
49 N (heating rate 50°C/h)	ISO 306	115 °C
HDT - Heat Deflection Temperature		
0.45 MN/m ²	ISO 75	115 °C
1.81 MN/m ²	ISO 75	75 °C
ELECTRICAL PROPERTIES - Typical values		
Electrical resistivity		
Surface	ASTM D 257	5E1 ohm

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PREDRYING CONDITIONS

At least 3 hours at 80 ÷ 90°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

180 ÷ 220°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

20 ÷ 40°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. The best results can be obtained keeping the tool temperature in the upper range.

INJECTION SPEED

Medium

The advisable injection speed greatly depends on cavity geometry and injection machine size. The use of high speed should be avoided as it can cause excessive shear stress on the steel fibres, reducing their EMI shielding effectiveness.

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, especially when high shielding is required. High percentages of regrind can cause a reduction in viscosity, reducing mechanical properties, first of all resilience. The use of regrind shall be avoided when the shielding requirements for the application are close to the maximum attainable with the product.

HOT RUNNER MOULDS AND SUBMARINE GATES

Hot runner moulds and/or small injection gates are not recommended and their use should be evaluated with the support of LATI technical service. To avoid the risk of clogging small pin and submarine gates, as well as hot drops, it is necessary to start every moulding session by moulding a few parts with a standard, glass reinforced, LATENE. LATISHIELD must be added to the standard material in the hopper without purging the barrel and keeping high back pressure until a few parts are moulded showing good dispersion of the steel fibres. The specific procedure should be set up with the help of LATI technical service. It must be noted that pin and submarine gates cause high shear stress and can negatively affect the shielding properties of the material.

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MATERIAL HANDLING

Pneumatic conveyor systems shall be avoided to prevent the separation of the steel bundles from the base resin.

TO AVOID

In order to prevent any material degradation, over-dimensioned machines should be avoided.

CONTACTS

LATI Industria Termoplastici S.p.A.