

## LATER 4 G/30-V0

Compound based on Polybutylene Terephthalate (PBT).

Glass fibres. UL94 V-0 classified, with halogens, PBB/PBDE free. Product UL certified.

PHYSICAL PROPERTIES - Typical values	STANDARD	VALUE MEASURE UNITS
Density	ISO 1183	1.58 g/cm <sup>3</sup>
Linear shrinkage at moulding - 2.0 mm thickness (at 60 MPa of cavity pressure)		
Longitudinal	ISO 294-4	0.40 ÷ 0.55 %
Transversal	ISO 294-4	0.90 ÷ 1.30 %
MECHANICAL PROPERTIES - Typical values		
IZOD impact strength (sample 63.5x12.7x3.2 mm)		
Notched, at +23°C	ASTM D256-A	100 J/m
CHARPY impact strength (sample 80x10x4 mm)		
Unnotched, at +23°C	ISO 179-1eU	45 kJ/m <sup>2</sup>
Unnotched, at -20°C	ISO 179-1eU	50 kJ/m <sup>2</sup>
Notched, at +23°C	ISO 179-1eA	7 kJ/m <sup>2</sup>
Notched, at -20°C	ISO 179-1eA	6 kJ/m <sup>2</sup>
Tensile elongation (speed 5 mm/min)		
At break, 23°C	ISO 527 (1)	2.5 %
At break, 60°C	ISO 527 (1)	3.5 %
At break, 90°C	ISO 527 (1)	6 %
At break, 120°C	ISO 527 (1)	6 %
At break, 150°C	ISO 527 (1)	6 %
Tensile strength (speed 5 mm/min)		
At break, 23°C	ISO 527 (1)	120 MPa
At break, 60°C	ISO 527 (1)	85 MPa
At break, 90°C	ISO 527 (1)	65 MPa
At break, 120°C	ISO 527 (1)	50 MPa
At break, 150°C	ISO 527 (1)	40 MPa
Elastic modulus		
Tensile (speed 1 mm/min), at 23°C	ISO 527 (1)	10500 MPa
Tensile (speed 1 mm/min), at 60°C	ISO 527 (1)	7400 MPa
Tensile (speed 1 mm/min), at 90°C	ISO 527 (1)	4900 MPa
Tensile (speed 1 mm/min), at 120°C	ISO 527 (1)	3600 MPa
Tensile (speed 1 mm/min), at 150°C	ISO 527 (1)	2600 MPa

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THERMAL PROPERTIES - Typical values	STANDARD	VALUE	MEASURE UNITS
<b>Coefficient of linear thermal expansion (CLTE)</b>			
+30°C to +100°C (longitudinal)	ASTM D 696	15	µm/(m·°C)
<b>VICAT - Softening point</b>			
9.8 N (heating rate 50°C/h)	ISO 306	200	°C
<b>HDT - Heat Deflection Temperature</b>			
0.45 MN/m <sup>2</sup>	ISO 75	220	°C
1.81 MN/m <sup>2</sup>	ISO 75	190	°C
<b>C.U.T. - Continuous Use Temperature (20,000h)</b>	---	135	°C
<b>FLAMMABILITY - Typical values</b>			
<b>Oxygen Index</b>	ASTM D 2863	28	%
<b>Flammability rating</b>			
3.00 mm thickness	UL 94	V-0	rating
1.50 mm thickness	UL 94	V-0	rating
<b>GWFI - Glow Wire Flammability Index</b>			
	IEC 695-2-12	GWFI: 960	1.0mm
	IEC 695-2-12	GWFI: 960	2.0mm
<b>ELECTRICAL PROPERTIES - Typical values</b>			
<b>CTI - Comparative Tracking Index</b>			
solution A (without surfactant)	IEC 112	250	V

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### PREDRYING CONDITIONS

At least 3 hours at 100 ÷ 120°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 ÷ 90°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, reducing mechanical properties

### HOT RUNNER MOULDS

Hot runner moulds are not recommended.

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### **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.

### **CONTACTS**

**LATI Industria Termoplastici S.p.A.**