

## LASTILAC AR G/17-VOE

Acrylonitrile-Butadiene-Styrene copolymer (ABS) based compound.

Glass fibers. UL94 V-0 classified, with brominated flame retardants, PBB/PBDE free. Very high dimensional stability.

PHYSICAL PROPERTIES	STANDARD	VALUE MEASURE UNITS
Density	ISO 1183	1.39 g/cm <sup>3</sup>
<b>Linear shrinkage at moulding</b>		
Longitudinal (0.078in/8,700psi)	ISO 294-4	0.003 ÷ 0.005 in/in
Transversal (0.078in/8,700psi)	ISO 294-4	0.003 ÷ 0.005 in/in
Dimensional stability	---	49
<b>Moisture absorption (in air)</b>		
after 24hrs	ISO 62-4	0.03 %
MECHANICAL PROPERTIES	STANDARD	VALUE MEASURE UNITS
<b>CHARPY impact strength</b>		
Unnotched, at +73°F	ISO 179-1eU	3.74 ft.lb/in <sup>2</sup>
Unnotched, at -4°F	ISO 179-1eU	4.67 ft.lb/in <sup>2</sup>
Notched, at +73°F	ISO 179-1eA	2.34 ft.lb/in <sup>2</sup>
Notched, at -4°F	ISO 179-1eA	0.93 ft.lb/in <sup>2</sup>
<b>Tensile elongation</b>		
At yield (0.196 in/min), 73°F	ISO 527 (1)	-
At yield (0.196 in/min), 140°F	ISO 527 (1)	-
At yield (0.196 in/min), 195°F	ISO 527 (1)	1.0 %
At break (0.196 in/min), 73°F	ISO 527 (1)	1.5 %
At break (0.196 in/min), 140°F	ISO 527 (1)	1.5 %
At break (0.196 in/min), 195°F	ISO 527 (1)	15.0 %
<b>Tensile strength</b>		
At yield (0.196 in/min), 73°F	ISO 527 (1)	-
At yield (0.196 in/min), 140°F	ISO 527 (1)	-
At yield (0.196 in/min), 195°F	ISO 527 (1)	2200 psi
At break (0.196 in/min), 73°F	ISO 527 (1)	7200 psi
At break (0.196 in/min), 140°F	ISO 527 (1)	5100 psi
At break (0.196 in/min), 195°F	ISO 527 (1)	1200 psi
<b>Elastic modulus</b>		
Tensile (speed 0.04 in/min), at 73°F	ISO 527 (1)	800 kpsi
Tensile (speed 0.04 in/min), at 140°F	ISO 527 (1)	700 kpsi
Tensile (speed 0.04 in/min), at 195°F	ISO 527 (1)	550 kpsi

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THERMAL PROPERTIES	STANDARD	VALUE MEASURE UNITS
<b>Coefficient of linear thermal expansion (CLTE)</b>		
+86°C to +212°F (longitudinal)	ISO 11359-2	17 µin/(in·°F)
<b>VICAT - Softening point</b>		
11 lb (heating rate 122°F/h)	ISO 306	194 °F
<b>HDT - Heat Deflection Temperature</b>		
66 psi	ISO 75	212 °F
264 psi	ISO 75	203 °F
<b>C.U.T. - Continuous Use Temperature</b>		
Long period (20,000h)	ASTM E1641/E1877	158 °F
FLAMMABILITY	STANDARD	VALUE MEASURE UNITS
<b>Oxygen Index</b>		
	ASTM D 2863	36 %
<b>Flammability rating</b>		
0.118 in thickness	UL 94	V-0
0.059 in thickness	UL 94	V-0
0.029 in thickness	UL 94	V-1
<b>GWFI - Glow Wire Flammability Index</b>		
	IEC 60695-2-12	960°C/1mm
	IEC 60695-2-12	960°C/2mm
<b>GWIT - Glow Wire Ignition Test</b>		
	IEC 60695-2-13	775°C/1mm
	IEC 60695-2-13	800°C/2mm
ELECTRICAL PROPERTIES	STANDARD	VALUE MEASURE UNITS
<b>CTI - Comparative Tracking Index</b>		
solution A (without surfactant)	IEC 60112	325 V
<b>Electrical resistivity</b>		
Surface	ASTM D 257	1E12 ohm

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### MATERIAL - STORAGE

Sealed, undamaged packages has to be kept in dry storage facilities, providing they are also able to protect them from weather and accidental damages.

### HANDLING AND SAFETY

Detailed information about a safe treatment of the material are indicated in the "Material Safety Data Sheet" (MSDS) furnished with the first material supply. The MSDS may be also sent again in case of loss.

### PREDRYING CONDITIONS

At least 3 hours at 158 ÷ 176°F

These are the suggested conditions to reduce the moisture content to adequate levels. Temperature and drying time can be reduced by using vacuum ovens

### ACTUAL MELT TEMPERATURE

374 ÷ 428°F

The injection molding 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.

### MOLD TEMPERATURE

104 ÷ 140°F

The mold temperature suggested above is the actual tool 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 molding 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 used. The effect of using regrind on material properties must be evaluated by the customer on its specific project and process. High percentages of regrind may cause a reduction in viscosity and fibre length, reducing mechanical properties, first resilience.

### HOT RUNNER MOLDS

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.

### NOTES

**The products mentioned herein are not suitable for applications in contact with foodstuff or for potable water transportation, or for toy manufacturing. The products mentioned herein are not suitable for applications in the pharmaceutical, medical or dental sector.**

### CONTACTS

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