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LATI® HIGH PERFORMANCE THERMOPLASTICS

LATICONTHER 62 CP6/650-V0HF1

High thermal conductivity product based on Polyamide 6 (PA6).
UL94 V-0 classified, free of halogens-based flame retardants and red phosphorous.

PHYSICAL PROPERTIES	STANDARD	VALUE	MEASURE UNITS
Density	ISO 1183	1.71	g/cm³
Linear shrinkage at moulding			
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
MECHANICAL PROPERTIES	**STANDARD**	**VALUE**	**MEASURE UNITS**
CHARPY impact strength			
Unnotched, at +73°F	ISO 179-1eU	4.21	ft.lb/in²
Notched, at +73°F	ISO 179-1eA	1.87	ft.lb/in²
Tensile elongation			
At break (0.196 in/min), 73°F	ISO 527 (1)	1.3	%
Tensile strength			
At break (0.196 in/min), 73°F	ISO 527 (1)	14500	psi
Elastic modulus			
Tensile (speed 0.04 in/min), at 73°F	ISO 527 (1)	2250	kpsi

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THERMAL PROPERTIES	STANDARD	VALUE	MEASURE UNITS
Coefficient of linear thermal expansion (CLTE)			
+86°C to +212°F (longitudinal)	ISO 11359-2	19	µin/(in·°F)
VICAT - Softening point			
11 lb (heating rate 122°F/h)	ISO 306	410	°F
HDT - Heat Deflection Temperature			
66 psi	ISO 75	419	°F
264 psi	ISO 75	401	°F
Thermal conductivity			
in plane	ASTM E 1461-92	28.0	BTU·in/(hr·ft²·F)
FLAMMABILITY	**STANDARD**	**VALUE**	**MEASURE UNITS**
Oxygen Index	ASTM D 2863	40	%
Flammability rating			
0.118 in thickness	UL 94	V-0	
0.059 in thickness	UL 94	V-1	
GWFI - Glow Wire Flammability Index			
	IEC 60695-2-12	960°C/1mm	
	IEC 60695-2-12	960°C/2mm	
GWIT - Glow Wire Ignition Test			
	IEC 60695-2-13	775°C/1mm	
	IEC 60695-2-13	775°C/2mm	
ELECTRICAL PROPERTIES	**STANDARD**	**VALUE**	**MEASURE UNITS**
CTI - Comparative Tracking Index			
solution A (without surfactant)	IEC 60112	400	V
Electrical resistivity			
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 194 ÷ 212°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 — 482 ÷ 536°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 — 176 ÷ 212°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, reducing mechanical properties, first resilience. According to UL guideline, up to 25% of regrind is permitted, without affecting the ratings of the yellow card. However, LATI suggests that no more of 15% of regrind is used.

HOT RUNNER MOLDS

Hot runner moulds may be used when a very tight temperature control is assured.

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TO AVOID

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.

APPROVALS

USA (UL): Product versions approved according UL recommendations are available.