

LATI LARIL 13 G/20-V1 20% Glass Fiber Reinforced Polyphenylene Oxide (PPOm) (UL94V-1) (Unverified Data**)

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polyphenylene Ether, 20% Glass Filled

Material Notes:

Description: Laril thermoplastics are polyphenylene oxide (PPOm) products. They exhibit excellent toughness, even at low temperatures, good thermal resistance and dimensional stability are the most important properties featured by the Larils which can therefore be used within a wide range of temperatures (-40°C / +110°C). The Larils feature exceptional resistance to hydrolysis and are therefore applicable also in contact with very hot water. Specific Notes for this Material: UL94V-1 self-extinguishing, without halogens or red phosphorus; 20% glass fiber; good dimensional stability; low linear thermal expansion coefficient; high rigidity; good general mechanical characteristics; good creep resistance. Disclaimer from LATI: This document contains information based on average values as obtained from the results of laboratory tests and observations made on LATI materials. Tested materials were injection molded, used in their natural color, and conditioned in compliance with Standard ASTM D 618, procedure A. These values refer to LATI's best technical and scientific knowledge at the moment of testing and cannot be used as a basis for the development of applications. For a better assessment of the materials, you are kindly requested to contact LATI's technical or commercial offices, which are at your disposal and will supply detailed information on the most suitable characteristics for their intended use. With reference to DPR n.224 dated May 24, 1988, issued in accordance with EC Guidelines 85/374, LATI Industria Termoplastici S.p.A. declines all responsibility arising from an improper use of the products described in this document. All data provided by LATI.

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http://www.lookpolymers.com/polymer_LATI-LARIL-13-G20-V1-20-Glass-Fiber-Reinforced-Polyphenylene-Oxide-PPOm-UL94V-1-nbspUnverified-Data.php

Physical Properties	Metric	English	Comments
Density	1.23 g/cc	0.0444 lb/in ³	ISO 1183
Water Absorption	0.050 %	0.050 %	at 23°C; ISO 62
Linear Mold Shrinkage	0.0040 cm/cm	0.0040 in/in	LATI
Linear Mold Shrinkage, Transverse	0.0040 cm/cm	0.0040 in/in	LATI

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	93	93	ASTM D785
Tensile Strength, Ultimate	98.0 MPa	14200 psi	ISO 527
	50.0 MPa	7250 psi	ISO 527
	@Temperature 120 °C	@Temperature 248 °F	
	70.0 MPa	10200 psi	ISO 527
	@Temperature 90.0 °C	@Temperature 194 °F	
	85.0 MPa	12300 psi	ISO 527

Mechanical Properties	@Temperature 60.0 °C Metric	@Temperature 140 °F English	Comments
Flexural Modulus	6.00 GPa	870 ksi	ASTM D790
	4.00 GPa	580 ksi	ASTM D790
	@Temperature 120 °C	@Temperature 248 °F	
	5.00 GPa	725 ksi	ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
	5.70 GPa	827 ksi	ASTM D790
	@Temperature 60.0 °C	@Temperature 140 °F	
Izod Impact, Notched	0.550 J/cm	1.03 ft-lb/in	ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	0.550 J/cm	1.03 ft-lb/in	ASTM D256
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	0.700 J/cm	1.31 ft-lb/in	ASTM D256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	2.00 J/cm ²	9.52 ft-lb/in ²	DIN 53453
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	2.00 J/cm ²	9.52 ft-lb/in ²	DIN 53453
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	2.00 J/cm ²	9.52 ft-lb/in ²	DIN 53453
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	40.0 µm/m-°C	22.2 µin/in-°F	ASTM D696
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Deflection Temperature at 0.46 MPa (66 psi)	132 °C	270 °F	ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	125 °C	257 °F	ASTM D648
Vicat Softening Point	132 °C	270 °F	50°C/h 50N; ISO 306
Flammability, UL94	V-1	V-1	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-0	V-0	

Thermal Properties	@Thickness 6.00 mm Metric	@Thickness 0.236 in English	Comments
Oxygen Index	31 %	31 %	ISO 4589
Glow Wire Test	960 °C @Thickness 2.00 mm	1760 °F @Thickness 0.0787 in	IEC 695-2-1

Electrical Properties	Metric	English	Comments
Dielectric Strength	22.0 kV/mm @Thickness 2.00 mm	559 kV/in @Thickness 0.0787 in	IEC 243-1
Comparative Tracking Index	250 V	250 V	IEC 112

Processing Properties	Metric	English	Comments
Melt Temperature	260 - 280 °C	500 - 536 °F	
Mold Temperature	80.0 - 100 °C	176 - 212 °F	
Drying Temperature	100 - 110 °C	212 - 230 °F	Requested for non-reinforced self-extinguishing types. Temperature can be reduced when using vacuum ovens.
Dry Time	>= 3 hour	>= 3 hour	Requested for non-reinforced self-extinguishing types. Drying time can be reduced when using vacuum ovens.

Descriptive Properties	Value	Comments
Heat Resistance - Ball Test (125°C)	Y	IEC 335
Heat Resistance - Ball Test (165°C)	N	IEC 335
Injection Speed	medium	
Needle Burner Test	Y	1.47 mm
	Y	3.05 mm

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