

LyondellBasell Lupolen® 5031 L

Easy flow, injection molding grade for closures, aerosol pumps, spray nozzles for spray cans, small automotive parts such as the caps on lead/acid batteries, knobs, barrels for writing instruments and glue sticks, connector housings, garden chairs, etc..

Physical Properties	Metric	English	Comments
Density	0.952 g/cc	0.0344 lb/in ³	
Water Absorption	0.010 %	0.010 %	
Moisture Absorption at Equilibrium	0.010 %	0.010 %	
Linear Mold Shrinkage, Flow	0.016 cm/cm	0.016 in/in	
Linear Mold Shrinkage, Transverse	0.012 cm/cm	0.012 in/in	

Melt Flow	8.5 g/10 min @Load 2.16 kg, Temperature 190 °C	8.5 g/10 min @Load 4.76 lb, Temperature 374 °F
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Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	26.0 MPa	3770 psi	
Elongation at Break	>= 50 %	>= 50 %	
Elongation at Yield	8.0 %	8.0 %	
Tensile Modulus	1.00 GPa	145 ksi	
Tensile Impact Strength	75.0 kJ/m ²	35.7 ft-lb/in ²	
Tensile Creep Modulus, 1 hour	440 MPa	63800 psi	
Tensile Creep Modulus, 1000 hours	290 MPa	42100 psi	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	
Dielectric Constant	2.4 @Frequency 100 Hz	2.4 @Frequency 100 Hz	
	2.4 @Frequency 1e+6 Hz	2.4 @Frequency 1e+6 Hz	

Dielectric Strength	150 kV/mm	3810 kV/in
Dissipation Factor	0.00020 @Frequency 100 Hz	0.00020 @Frequency 100 Hz
	0.00020 @Frequency 1e+6 Hz	0.00020 @Frequency 1e+6 Hz
Comparative Tracking Index	600 V	600 V

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	165 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ @Temperature 20.0 $^\circ\text{C}$	91.7 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ @Temperature 68.0 $^\circ\text{F}$	
Melting Point	131 $^\circ\text{C}$	268 $^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	75.0 $^\circ\text{C}$	167 $^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	44.0 $^\circ\text{C}$	111 $^\circ\text{F}$	
Vicat Softening Point	74.0 $^\circ\text{C}$	165 $^\circ\text{F}$	
Flammability, UL94	HB @Thickness 0.400 mm	HB @Thickness 0.0157 in	
Oxygen Index	17 %	17 %	

