

LG Chemical LUCEL N109WR POM, Chemical Resistance

Category : Polymer , Thermoplastic , Acetal (POM) , Acetal Copolymer, Unreinforced

Material Notes:

Feature: Injection Molding, POM, Chemical Resistance
 Application: Automotive Air-conditioner Valve, Fuel Tank Cap, etc.
 CAS No. 66455-31-0
 Information provided by LG Chemical

Order this product through the following link:

http://www.lookpolymers.com/polymer_LG-Chemical-LUCEL-N109WR-POM-Chemical-Resistance.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.41 g/cc	1.41 g/cc	ASTM D792
Maximum Moisture Content	0.10	0.10	Injection Molding
Linear Mold Shrinkage, Flow	0.018 - 0.021 cm/cm @Thickness 3.20 mm	0.018 - 0.021 in/in @Thickness 0.126 in	ASTM D955
Melt Flow	9.0 g/10 min @Load 2.16 kg, Temperature 190 Â°C	9.0 g/10 min @Load 4.76 lb, Temperature 374 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	82	82	ASTM D785
Tensile Strength, Yield	60.8 MPa @Thickness 3.20 mm	8820 psi @Thickness 0.126 in	50mm/min; ASTM D638
Elongation at Break	65 % @Thickness 3.20 mm	65 % @Thickness 0.126 in	50mm/min; ASTM D638
Flexural Yield Strength	89.2 MPa @Thickness 6.40 mm	12900 psi @Thickness 0.252 in	1.3mm/min; ASTM D790
Flexural Modulus	2.55 GPa @Thickness 6.40 mm	370 ksi @Thickness 0.252 in	1.3mm/min; ASTM D790
Izod Impact, Notched	0.686 J/cm @Thickness 6.40 mm, Temperature 23.0 Â°C	1.29 ft-lb/in @Thickness 0.252 in, Temperature 73.4 Â°F	ASTM D256

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	160 Â°C @Thickness 6.40 mm	320 Â°F @Thickness 0.252 in	Unannealed; ASTM D648

Thermal Properties (Temperature at 1.8 MPa (264 psi))	Metric 110 Å°C	English 220 Å°F	Comments Unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
UL RTI, Electrical	105 Å°C	221 Å°F	
	@Thickness >=0.710 mm	@Thickness >=0.0280 in	
	105 Å°C	221 Å°F	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	105 Å°C	221 Å°F	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	
Flammability, UL94	HB	HB	
	@Thickness >=0.710 mm	@Thickness >=0.0280 in	
	HB	HB	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	HB	HB	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	ASTM D257
Surface Resistance	1.00e+16 ohm	1.00e+16 ohm	ASTM D257
Dielectric Constant	3.8	3.8	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	24.0 kV/mm	610 kV/in	ASTM D149
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Hot Wire Ignition, HWI	7.0 - 15 sec	7.0 - 15 sec	
	@Thickness >=0.710 mm	@Thickness >=0.0280 in	
	7.0 - 15 sec	7.0 - 15 sec	
	@Thickness >=1.50 mm	@Thickness >=0.0591 in	
	7.0 - 15 sec	7.0 - 15 sec	
	@Thickness >=3.00 mm	@Thickness >=0.118 in	

Electrical Properties High Amp Arc Ignition, HAI	≥ 120 arcs Metric	≥ 120 arcs English	Comments
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	≥ 120 arcs	≥ 120 arcs	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	≥ 120 arcs	≥ 120 arcs	
	@Thickness 3.00 mm	@Thickness 0.118 in	

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	160 - 180 $\text{Å}^\circ\text{C}$	320 - 356 $\text{Å}^\circ\text{F}$	Injection Molding
Middle Barrel Temperature	180 - 200 $\text{Å}^\circ\text{C}$	356 - 392 $\text{Å}^\circ\text{F}$	Injection Molding
Front Barrel Temperature	190 - 200 $\text{Å}^\circ\text{C}$	374 - 392 $\text{Å}^\circ\text{F}$	Injection Molding
Nozzle Temperature	190 - 200 $\text{Å}^\circ\text{C}$	374 - 392 $\text{Å}^\circ\text{F}$	Injection Molding
Melt Temperature	190 - 200 $\text{Å}^\circ\text{C}$	374 - 392 $\text{Å}^\circ\text{F}$	Injection Molding
Mold Temperature	60.0 - 80.0 $\text{Å}^\circ\text{C}$	140 - 176 $\text{Å}^\circ\text{F}$	Injection Molding
Drying Temperature	90.0 - 110 $\text{Å}^\circ\text{C}$	194 - 230 $\text{Å}^\circ\text{F}$	Injection Molding
Dry Time	3.00 - 6.00 hour	3.00 - 6.00 hour	Injection Molding
Back Pressure	4.02 - 8.04 MPa	583 - 1170 psi	Injection Molding
Screw Speed	50 - 100 rpm	50 - 100 rpm	Injection Molding

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