SolutionPartner

LG Chem

LUCEL N109WR

Injection Molding, POM

Description

Chemical resistance

Application

Automative Air-conditioner Valve, Fuel Tank Cap, etc.

Properties	Test Condition	Test Method	Unit	Typical Value
Physical				
Specific Gravity		ASTM D792	-	1.41
Molding Shrinkage (Flow), 3.2mm		ASTM D955	%	1.8 ~ 2.1
Melt flow rate		ASTM D1238	g/10min	9
Mechanical				
Tensile Strength, 3.2mm		ASTM D638		
@Yield	10 mm/min		kg/cm^2	620
Tensile Elongation, 3.2mm		ASTM D638		
@Break	10 mm/min		%	65
Flexural Strength, 6.4mm	2.8 mm/min	ASTM D790	kg/cm^2	910
Flexural Modulus, 6.4mm	2.8 mm/min	ASTM D790	kg/cm^2	26,000
Izod Impact Strength, 6.4mm		ASTM D256		
(Notched)	23 ℃		kg·cm/cm	7.0
Rockwell Hardness	R-Scale	ASTM D785	-	82
Thermal				
Heat Deflection Temperature, 6.4mm		ASTM D648		
	18.6 kg		℃	110
	4.6 kgf		℃	160
Flammability		UL94		
	0.71 mm		class	HB
	1.5 mm		class	HB
	2.5 mm		class	
	3.0 mm		class	HB
Electrical				
Dissipation factor		ASTM D150		
	1 MHz			3.8
Surface Resistivity		ASTM D257	Ohm	1×10^{16}
Volume Resistivity	23 ℃	ASTM D257	Ohm·cm	1×10^{14}
Dielectric Strength	23 ℃	ASTM D149	kV/mm	24

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Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
[Pre-drying]			
Drying Temperature		℃	90 ~ 110
Drying Time		hrs	3 ~ 6
Maximum Moisture Content		%	0.1
[Temperature]			
Mold temperature		℃	60 ~ 80
Cylinder Temperature	Rear		160 ~ 180
	Middle	℃	180 ~ 200
	Front	℃	190 ~ 200
Nozzle Temperature		℃	190 ~ 200
Back Pressure		bar	41 ~ 82
Screw Speed		mm/s	50 ~ 100

Note) Back Pressure & Screw Speed are only mentioned as general guidelines.

These may not apply or need adjustment in specific situations such as low shot sizes, thin wall molding and gas-assist molding.