

# LUCEL N109WR

Injection Molding, POM

## Description

Chemical Resistance

## Application

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

Properties	Test Condition	Test Method	Unit	Typical Value
<b>Physical</b>				
Specific Gravity		ASTM D792	-	1.41
Molding Shrinkage (Flow), 3.2mm		ASTM D955	%	1.8 ~ 2.1
Melt Flow Rate	190 °C/2.16kg	ASTM D1238	g/10min	9
<b>Mechanical</b>				
Tensile Strength, 3.2mm		ASTM D638		
@ Yield	50mm/min		kg/cm <sup>2</sup>	620
Tensile Elongation, 3.2mm		ASTM D638		
@ Break	50mm/min		%	65
Flexural Strength, 6.4mm	1.3mm/min	ASTM D790	kg/cm <sup>2</sup>	910
Flexural Modulus, 6.4mm	1.3mm/min	ASTM D790	kg/cm <sup>2</sup>	26,000
IZOD Impact Strength, 6.4mm (Notched)	23 °C	ASTM D256	kg·cm/cm	7.0
Rockwell Hardness	R-Scale	ASTM D785	-	82
<b>Thermal</b>				
Heat Deflection Temperature, 6.4mm (Unannealed)		ASTM D648		
	18.6kg		°C	110
	4.6kg		°C	160
Flammability		UL94		
0.71mm			class	HB
1.5mm			class	HB
2.5mm			class	
3.0mm			class	HB
<b>Electrical</b>				
Dissipation Factor		ASTM D150		
	1MHz		10 <sup>-4</sup>	3.8
Surface Resistivity		ASTM D257	Ohm	1*10 <sup>16</sup>
Volume Resistivity	23 °C	ASTM D257	Ohm·cm	1*10 <sup>14</sup>
Dielectric Strength, 1mm	23 °C	ASTM D149	kV/mm	24

Note) Typical values are only for material selection purpose, and variation within normal tolerances are for various colors.

Values given should not be interpreted as specification and not be used for part or tool design.

All properties, except melt flow rate are measured on injection molded specimens and after 48 hours storage at 23°C, 50% relative humidity.

Updated : 9-Nov-09

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### Processing Guide (Injection Molding)

Processing Parameters		Unit	Value
Drying Temperature		°C	90 ~ 110
Drying Time		hrs	3 ~ 6
Minimum Moisture Content		%	0.1
Melt Temperature		°C	190 ~ 200
Cylinder Temperature	Rear	°C	160 ~ 180
	Middle	°C	180 ~ 200
	Front	°C	190 ~ 200
Nozzle Temperature		°C	190 ~ 200
Mold Temperature		°C	60 ~ 80
Back Pressure		kg/cm <sup>2</sup>	41 ~ 82
Screw Speed		rpm	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.

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