

RODRUN LC-5030G

Liquid Crystal Polymer

UNITIKA Plastics Division

Message:

Unitika Rodrun is a thermoplastics for percision injection classified into semi-aromatic liquid crystal polyesters (LCPs). LC-5000 series has a excellent moldability (high flow without flash, using a mold of low temperature) and precision (low warpage).

LC-5000 series are suitable for almost all dipping soldering conditions and partial reflow soldering (low warpage).

LCP has stiff molecular structure to form liquid crystal at molten stage. The archeological properties of low viscosity under shear stress gives high flow without flash problems. Rodrun which use a standard mold temperature of 40°C shows the rheological merit of LCP clearly.

Out shape of a LCP seem to be just like a normal plastics, however, the solid LCP consists of crystal and glasified liquid crystal. Rodrun has a low crystallinity in the mold. This property yields low shrinkage and low warpage. Rodrun is a suitable resin for precision parts.

General Information			
UL YellowCard	E47924-101756314		
Filler / Reinforcement	Glass Fiber,30% Filler by Weight		
Features	Gas Barrier		
	Good Chemical Resistance		
	Good Moldability		
	High Flow		
	Low Shrinkage		
	Low Viscosity		
	Low Warpage		
Uses	Semi Crystalline		
	Automotive Under the Hood		
	Bobbins		
	Engineering Parts		
	Sporting Goods		
Processing Method	Switches		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.62	g/cm ³	ASTM D792
Water Absorption (23°C, 24 hr)	0.010	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield, 3.20 mm)	162	MPa	ASTM D638
Tensile Elongation (Break)	4.2	%	ASTM D638
Flexural Modulus			ASTM D790
1.60 mm	19600	MPa	
3.20 mm	14700	MPa	
Flexural Strength			ASTM D790
Yield, 1.60 mm	211	MPa	

Yield, 3.20 mm	211	MPa	
Impact	Nominal Value	Unit	Test Method
Unnotched Izod Impact	120	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	250	°C	
1.8 MPa, Unannealed	210	°C	
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
0.800 mm	V-2		
3.20 mm	V-0		
Injection	Nominal Value	Unit	
Drying Temperature	130	°C	
Drying Time	4.0	hr	
Hopper Temperature	120	°C	
Rear Temperature	270	°C	
Middle Temperature	280	°C	
Front Temperature	290	°C	
Nozzle Temperature	290	°C	
Mold Temperature	40.0	°C	

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