

RODRUN LC-5040G

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	E47924-239949		
Filler / Reinforcement	Glass Fiber,40% Filler by Weight		
Features	Gas Barrier Good Chemical Resistance Good Moldability High Flow Low Shrinkage Low Viscosity Low Warpage Semi Crystalline		
Uses	Bobbins Engineering Parts		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.72	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)	157	MPa	ASTM D638
Tensile Elongation (Break)	3.8	%	ASTM D638
Flexural Modulus			ASTM D790
1.60 mm	24000	MPa	
3.20 mm	16700	MPa	
Flexural Strength			ASTM D790
Yield, 1.60 mm	225	MPa	
Yield, 3.20 mm	216	MPa	
Impact	Nominal Value	Unit	Test Method
Unnotched Izod Impact	80	J/m	ASTM D256

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	255	°C	
1.8 MPa, Unannealed	215	°C	
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
0.800 mm	HB		
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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