SUMIKASUPER® LCP E4006L

Liquid Crystal Polymer

Sumitomo Chemical Co., Ltd.

Message:

SUMIKASUPER LCP is a thermotropic liquid crystalline polyester, showing the highest heat resistance among engineering plastics.

General Information			
UL YellowCard	E54705-100988592	E249884-100962002	
Filler / Reinforcement	Long Glass Fiber		
Features	Good Adhesion Good Chemical Resistance Good Dimensional Stability Good Heat Aging Resistance Good Moldability High Heat Resistance High Temperature Strength Low Viscosity Weldable		
Uses	Appliances Automotive Applications Bobbins Electrical/Electronic Applications Engineering Parts Food Containers		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.60	g/cm³	ASTM D792
Molding Shrinkage			Internal Method
Flow	0.11	%	
Across Flow	0.78	%	
Water Absorption (Saturation)	0.020	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	91		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Strength (Yield)	182	MPa	ASTM D638
Tensile Elongation (Break)	5.6	%	ASTM D638
Flexural Modulus			ASTM D790

23°C	11900	MPa	
200°C	5780	MPa	
Flexural Strength			ASTM D790
Yield, 23°C	155	MPa	
Yield, 200°C	47.0	MPa	
Shear Strength	58.0	MPa	ASTM D732
Poisson's Ratio	0.48		ASTM E132
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (6.40 mm)	140	J/m	ASTM D256
Unnotched Izod Impact (6.40 mm)	460	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load (1.8 MPa, Unannealed)	310	°C	ASTM D648
CLTE			Internal Method
Flow : 150°C	2.0E-6	cm/cm/°C	
Transverse : 150°C	8.1E-5	cm/cm/°C	
Thermal Conductivity	0.53	W/m/K	JIS R2618
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257
Dielectric Constant			ASTM D150
1 kHz	4.40		
1 MHz	3.70		
Dissipation Factor			ASTM D150
1 kHz	0.018		
1 MHz	0.035		
Arc Resistance	130	sec	ASTM D495
Comparative Tracking Index	185	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating (0.300 mm)	V-0		UL 94
Oxygen Index	44	%	JIS K7201
Additional Information	**Nominal Value**	**Unit**	**Test Method**
Soldering Resistance	335	°C	Internal Method
Injection	**Nominal Value**	**Unit**	
Drying Temperature	120 to 150	°C	
Drying Time	3.0	hr	
Suggested Max Regrind	30	%	
Rear Temperature	330 to 350	°C	
Middle Temperature	350 to 370	°C	
Front Temperature	370 to 390	°C	
Nozzle Temperature	370 to 390	°C	
Processing (Melt) Temp	380	°C	
Mold Temperature	70.0 to 160	°C	

Injection Pressure	118 to 157	MPa
Injection Rate	Moderate-Fast	
Holding Pressure	39.0 to 59.0	MPa
Back Pressure	0.980 to 4.90	MPa
Screw Speed	50 to 100	rpm

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