

SUMIKASUPER® LCP E6810

Liquid Crystal Polymer
Sumitomo Chemical Co., Ltd.

Message:

SUMIKASUPER LCP is a thermotropic liquid crystalline polyester, showing the highest heat resistance among engineering plastics.
SUMIKASUPER LCP E6810 is 50% reinforced with a combination of glass fiber and inorganic filler.

General Information			
UL YellowCard	E54705-100988642	E249884-100962043	
Filler / Reinforcement	Glass fiber reinforced material, 50% filler by weight		
Features	Good dimensional stability		
	Low warpage		
	Low viscosity		
	High elasticity		
	High temperature strength		
	Weldable		
	Good formability		
	Good heat aging resistance		
	Good adhesion		
	Good chemical resistance		
	Heat resistance, high		
Uses	Electrical/Electronic Applications		
	Electrical appliances		
	Engineering accessories		
	Application in Automobile Field		
	Food container		
Forms	Particle		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.81	g/cm ³	ASTM D792
Molding Shrinkage			ASTM D955
Flow	0.22	%	ASTM D955
Transverse flow	0.66	%	ASTM D955
Water Absorption (Saturation)	0.020	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	103		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	126	MPa	ASTM D638

Tensile Elongation (Break)	4.3	%	ASTM D638
Flexural Modulus (23°C)	13500	MPa	ASTM D790
Flexural Strength (23°C)	134	MPa	ASTM D790
Shear Strength	50.0	MPa	ASTM D732
Poisson's Ratio	0.39		ASTM E132
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (6.40 mm)	88	J/m	ASTM D256
Unnotched Izod Impact (6.40 mm)	280	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	284	°C	ASTM D648
Linear thermal expansion coefficient			ASTM D696
Flow: 50 to 150°C	1.1E-5	cm/cm/°C	ASTM D696
Lateral: 50 to 150°C	6.5E-5	cm/cm/°C	ASTM D696
RTI Elec (3.20 mm)	220	°C	UL 746
RTI Imp (3.20 mm)	200	°C	UL 746
RTI (3.20 mm)	240	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+15	ohms · cm	ASTM D257
Dielectric Constant			ASTM D150
1 kHz	4.30		ASTM D150
1 MHz	3.90		ASTM D150
Dissipation Factor			ASTM D150
1 kHz	0.019		ASTM D150
1 MHz	0.028		ASTM D150
Arc Resistance	130	sec	ASTM D495
Comparative Tracking Index (CTI)	165	V	UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.300 mm)	V-0		UL 94
Oxygen Index	46	%	ASTM D2863
Additional Information			
Mold Shrinkage, Sumitomo Chemical Method, Machine Direction: 2.2 mils/inMold Shrinkage, Sumitomo Chemical Method, Transverse Direction: 6.6 mils/inFlexural Strength, ASTM D790, 392°F: 4931 psiFlexural Modulus, ASTM D790, 392°F: 884730 psi			
Injection	Nominal Value	Unit	
Drying Temperature	120 - 150	°C	
Drying Time	3.0	hr	
Suggested Max Regrind	30	%	
Rear Temperature	300 - 320	°C	
Middle Temperature	320 - 350	°C	
Front Temperature	340 - 370	°C	
Nozzle Temperature	340 - 370	°C	
Mold Temperature	70.0 - 160	°C	
Injection Pressure	78.0 - 157	MPa	

Injection Rate	Moderate-Fast	
Holding Pressure	20.0 - 39.0	MPa
Back Pressure	0.980 - 4.90	MPa
Screw Speed	50 - 100	rpm

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