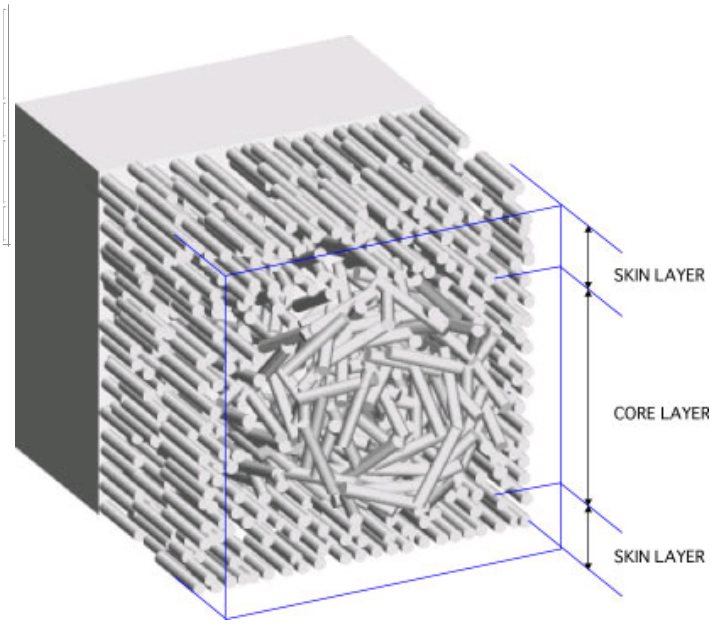
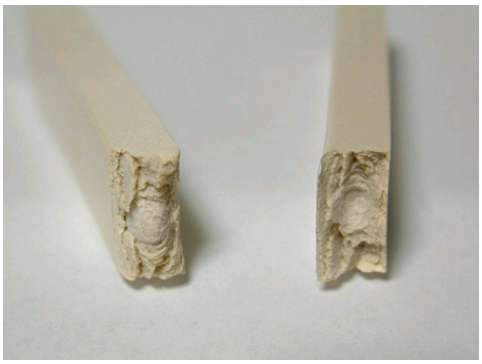
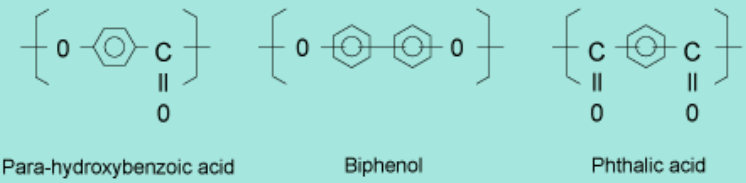
Features





SUMIKASUPER LCP is a thermotropic liquid crystalline polyester that possesses the highest heat resistance among all engineering plastics.
Its basic chemical composition is shown in the diagram below. Thermotropic liquid crystalline polyester is one of the most common types of liquid crystal polymer.



As indicated by their name, one property of liquid crystal polymers is that they become liquid crystalline state when they enter a molten state. This special phenomenon, unique to liquid crystal polymers, can be observed under a polarizing microscope: as the temperature of a polymer increases and it begins to melt, its light transmittance also increases significantly.

Figure 1 Device for Observing the Melting of Liquid Crystals

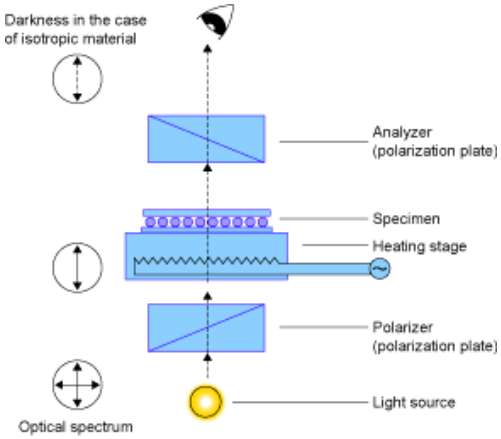


Figure 2 Transmission of Light through polalizer

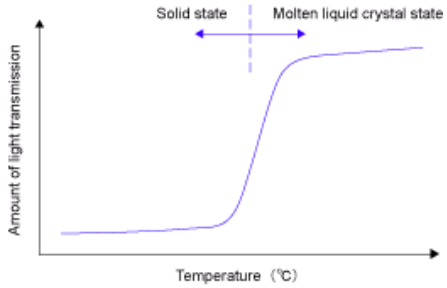


Figure 3 Polarization Microscopic Photograph

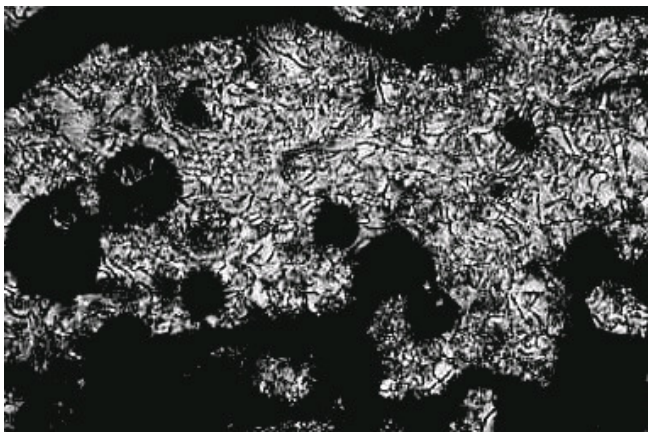
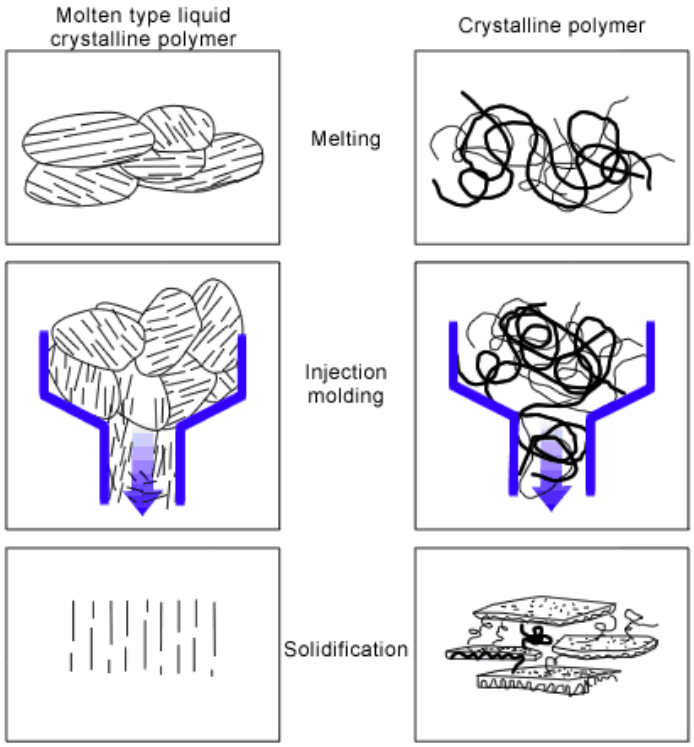


Figure 4 Characteristics of Liquid Crystalline Polymer (LCP)

▲ TOP

,,



Characteristics Based on Liquid Crystalline Properties **¨ Effects of Molecular Orientation**
Advantages
High strength and rigidity Low viscosity, high moldability Low shrinkage, low coefficient of linear expansion (flow direction) High-speed setting, with less flash production.
Disadvantages
Anisotropy (strength, shrinkage) Low weld strength
Characteristics Based on Wholy Aromatic Compounds
High heat resistance (high DTUL, high heat aging resistance) Soldering heat resistance Flame resistance Low absorbency Chemical resistance

▲ TOP