Introduction of LCP Material

LCP material is a new type of polymer material, which generally exhibits liquid crystal properties in melting state.

Material advantages:

LCP advantages.

1. High liquidity

2. Good dimensional stability

3. Excellent liquidity

4. Solvent Resistance

5. High mechanical strength

6. Flammability

LCP uses.

1. Speed connectors, coils, switches, sockets

2. Pump Parts and Valve Parts

3. Automotive Fuel Peripheral Parts

4. Containers for Electronic Furnace

Poor mechanical properties perpendicular to flow direction

Material properties:

These materials have excellent heat resistance and processing properties. The main method of polymerization is melt polycondensation. In recent years, the technology of continuous melt polycondensation to produce high molecular weight LCP has been developed. The liquid crystal aromatic polyester is oriented in liquid crystal state because of its macromolecular chain. It has unusually regular fibrous structure, special properties and high strength products, not inferior to metals and ceramics. Tensile strength and flexural modulus of thermoplastic engineering plastics have been developed for more than 10 years. Mechanical properties, dimensional stability, optical properties, electrical properties, chemical resistance, flame retardancy, processability are good, heat resistance is good, thermal expansion coefficient is low. The properties, processability and price of the liquid crystal polyester prepared by different monomers are also different. The different fillers and the different amount of fillers also affect its performance.

Main uses:

1) It has high strength, high rigidity, high temperature resistance and electrical insulation, and is used in the fields of electronics, electricity, optical fibers, automobiles and astronautics. 2) The fibers made of liquid crystal can be used as fishnet, bullet-proof clothing, sports

goods, brake pads, optical fibers and other display materials. They can also be made into films for soft printed circuits, food packaging, etc.

3) Used in microwave oven container, it can withstand high and low temperature. LCP can also be used for printed circuit boards, satellite electronic components, jet engine parts, electrical and automotive machinery parts or components, and also for medical purposes.

4) High filler can be added as IC packaging material to replace epoxy resin as coil skeleton packaging material; as fiber optic cable joint sheath and high strength components; as a substitute for filler material in ceramic separation tower.

5) Alloys can be made by blending with plastics such as polysulfone, PBT and polyamide. The mechanical strength of the parts is high after forming. It can be used to replace glass fiber reinforced plastics such as polysulfone. It can not only improve the mechanical strength, but also improve the use strength and chemical stability. At present, the application of LCP in outer panel of spacecraft and braking system of automobile is being studied.