

Technical Data: Liquid Crystal Polymer (LCP)

Product Description

Define and Grades

Liquid Crystal Polymer (LCP) is a high-performance engineering plastic known for its unique molecular structure that imparts exceptional heat resistance, chemical resistance, low moisture absorption, and high mechanical properties, making it ideal for various demanding applications.

LCP grades we used in plastic injection molding include:

- LCP 4216
- LCP 4711
- LCP 5511
- LCP 6411
- LCP 6911



Features and Applications

Grade	Features	Applications
LCP 4216	High flowability, low warpage, excellent dimensional stability, chemical resistance	Connectors, electronic components, automotive sensors
LCP 4711	Good balance of flowability and mechanical properties, excellent chemical resistance	Electrical connectors, sockets, switches
LCP 5511	High mechanical strength, good dimensional stability, low warpage	Automotive connectors, E&E components, sensors
LCP 6411	High flowability, low warpage, excellent dimensional stability, chemical resistance	Thin-walled components, connectors, micro parts
LCP 6911	Excellent dimensional stability, high mechanical strength, low warpage	Aerospace components, medical devices, connectors

Physical and Mechanical

Property	Density	Tensile Strength	Tensile Elongation	Flexural Modulus	Flexural Strength	Izod Impact Strength	Heat Deflection Temp.	Shrinkage	Hardness
Units	(g/cm ³)	(Mpa)	(%)	(MPa)	(MPa)	(J/m)	(°C)	(%)	(HRB)
LCP 4216	1.52	160	2.8	11.5	175	100	245	0.2	85
LCP 4711	1.55	165	3	12	180	110	250	0.2	86
LCP 5511	1.53	170	3.2	12.5	185	120	255	0.2	87
LCP 6411	1.54	175	3.5	13	190	130	260	0.2	88
LCP 6911	1.56	180	3.8	13.5	195	140	265	0.2	89

Note

The above data are reference material science data. This data reference is not binding and is not considered as authoritative test data. If your material requirements are extremely precise, please contact our material engineers. Tel | +86 18926788217 | Web | www.newayprecision.com | Contact Neway



LCP Injection Molding

Liquid Crystal Polymer

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Benefits of Material Grades

LCP 4216

High Heat Deflection: LCP 4216 offers a remarkable heat deflection temperature of 245°C, making it suitable for applications requiring heat resistance.

Izod Impact Strength: With an Izod impact strength of 100 J/m, LCP 4216 is well-suited for manufacturing connectors in electronics where impact resistance is crucial.



LCP 4711



High Tensile Strength: LCP 4711 boasts a tensile strength of 165 MPa, suitable for intricate components in the medical field, such as surgical instruments.

High Heat Resistance: Featuring a heat deflection temperature of 250°C, LCP 4711 is perfect for producing insulating components for high-temperature electronics.

LCP 5511

Stiffness and Strength: LCP 5511 has a high flexural modulus of 12.5 GPa, making it ideal for precision components in optical devices.

Tensile Elongation: A tensile elongation of 3.2% makes LCP 5511 suitable for manufacturing snap-fit components in consumer electronics.



LCP 6411



Strong Impact Resistance: LCP 6411's Izod impact strength of 130 J/m makes it an excellent choice for producing complex parts like clips and brackets in automotive applications.

Flexural Strength: With a flexural strength of 190 MPa, LCP 6411 is ideal for manufacturing connectors and housings for the aerospace industry.

LCP 6911

High Hardness: LCP 6911 boasts a Rockwell hardness of 89, making it suitable for producing precision gears and components in industrial equipment.

Versatile Toughness: With a tensile elongation of 3.8%, LCP 6911 creates snap-fit components and connectors for consumer goods.



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