Low-Loss™ LCP Film

PRODUCT DATA SHEET

TCI's Low-Loss™ LCP Films are designed for next-generation high-frequency PCBs, flexible or rigid. Engineered for use in circuitply, bondply, and coverlay applications, these films minimize dielectric loss, enabling faster signal transmission and wider bandwidth. Ideal for 5G antennas, radar, satellites, and telecom infrastructure, they deliver the performance needed for the most demanding designs. For maximum flexibility, TCI offers stand-alone LCP films. These can be laminated with smooth copper foils or alternative substrates, empowering you to create customized, high-performance PCB solutions.

KEY FEATURES

- Extremely low water absorption (<0.05%).
- Low Dielectric Constant (Dk) and Dielectric Dissipation Factor (Df).
- High Thermal Stability for Pb-free soldering.
- Excellent chemical resistance to acids, bases, solvents, and fuels.
- Stable electrical properties at high frequencies and high moisture environments.
- Excellent adhesion and peel strength to copper.
- Environmentally friendly, both green and ROHS compliant.

			Low-Loss™ LCP Film
	Unit	Test Method	Value
Standard Thickness	Micron	In-Line Beta Scanner	50
Standard Width	mm	Internal Method	< 508
Standard Length	M	Internal Method	< 100
Electrical Properties			
Dielectric Constant	Dk	IPC-TM-650 2.5.5.15	3.3
Dielectric Dissipation Factor	Df	IPC-TM-650 2.5.5.15	< 0.0020
Mechanical Properties			
Peel Strength	KN/m	IPC-TM-650 2.4.9 (90° Pull)	1.0
CTE	ppm	IPC 650 2.4.24.5 (TMA)	10
Elastic Modulus	GPa	IPC-TM-650 2.4.19	5
Tensile Elongation	%	IPC-TM-650 2.4.19	16
Tensile Strength	MPa	IPC-TM-650 2.4.19	129
Thermal Properties			
Solder Heat Resistance	°F (°C)	IPC-TM-650.2.4.13	518 (270)