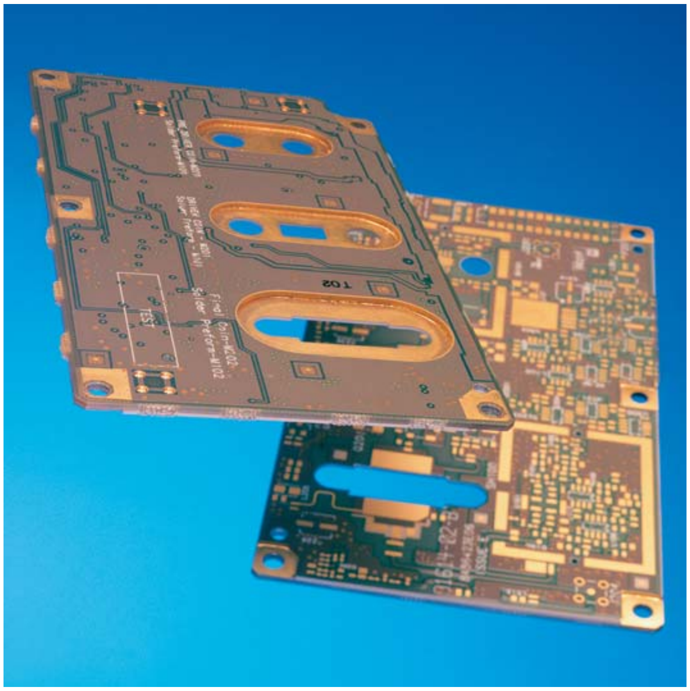
W. L. GORE & ASSOCIATES • ELECTRONIC PRODUCTS DIVISION

GORE™ SPEEDBOARD® LF PREPREG DATA SHEET (LOW FLOW)

GORE™ SPEEDBOARD LF Prepreg—the lowest loss, lowest Dk thermoset prepreg compatible with all commercial laminates. This product exhibits controlled X-Y resin flow for superior cost performance in cavity and ridgid-flex designs. The material consists of standard BT resin in a continuous toughening matrix.



Product Attributes

Electrical

- Low loss for high frequency signal integrity
- Low Dk provides faster signal speeds and thinner PCBs
- Stable Dk (2.6) and loss (0.004) from 1 MHz–40 GHz
- Wider traces for higher bandwidth
- Superior thickness uniformity for controlled impedance layers
- Reduced crosstalk with increased routability

Reliability

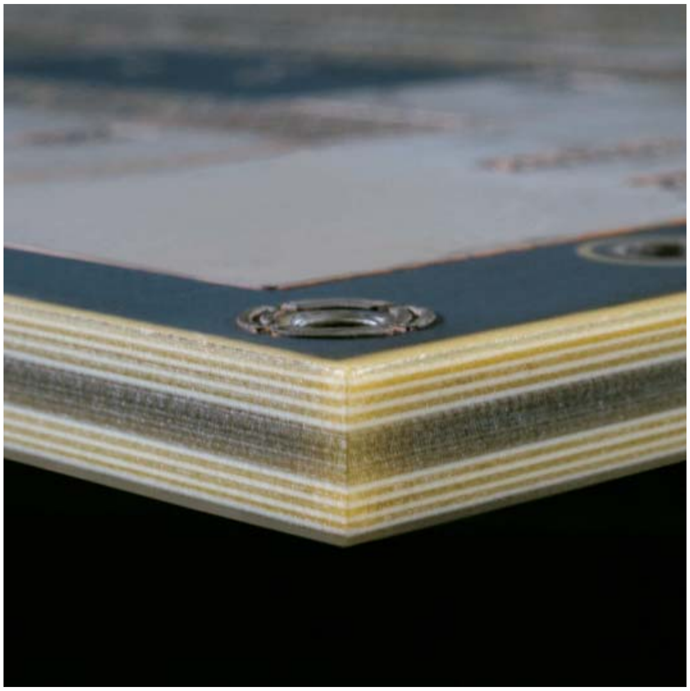
- High Tg for Pb-free, multiple laminations or solder reflows
- Micro reinforced for superior crack resistance
- Excellent adhesion to all commercial cores
- Compatible with Omega-ply
- Low outgassing for space applications

Processing

- Repeatable, low X-Y resin flow for cavity designs
- Fills buried vias during lamination
- Standard high Tg FR4 lamination cycle
- Laser drilling 2–5x faster than glass prepregs

High Density

- Low Dk for thinner boards and improved PTH aspect ratios
- Minimizes trace "print-through"



Typical Applications

- Combine with halogen free FR4 cores for cost/performance
- Combine with RF laminates for high performance
- Base station power amplifiers and other cavity PCBs
- Cavity modules and packages
- Rigid-flex and flex to install

W. L. Gore & Associates

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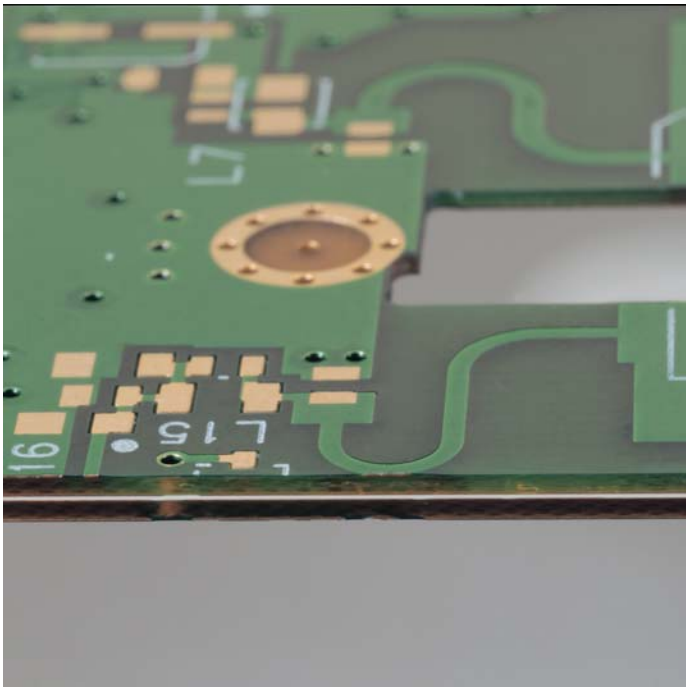
Creative Technologies Worldwide

Material Properties

Property	Unit	Test Condition	Typical Value
Dielectric constant (Dk)	—	Split post resonant cavity (1 MHz–40 GHz)	2.6
Loss tangent (Df)	—	Split post resonant cavity (1 MHz–40 GHz)	0.004
Peel strength	Kg/cm (pli)	17 µm (1/2 oz) VLP foil	1.1 (6.5)
Solder resistance	—	288°C; 6x30 sec	Pass
CTE (X, Y, Z)	ppm/°C	TMA (–55 to +200°C)	56
Glass transition temperature	°C (°F)	TMA	220 (428)
Thickness	µm (mil)		57, 86 (2.2, 3.4)



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SPEEDBOARD is a trademark of W. L. Gore & Associates, Inc.

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