

# GORE™ SPEEDBOARD® EF PREPREG DATA SHEET (ENVIRONMENTALLY FRIENDLY)

GORE™ SPEEDBOARD EF Prepreg—the lowest loss, lowest Dk halogen free prepreg compatible with all commercial laminates. This product exhibits controlled X-Y resin flow for superior cost performance in cavity designs. The material consists of high Tg resin in a continuous toughening matrix.

## Product Attributes

### Electrical

- Low loss for high speed signal integrity
- Low Dk provides faster signal speeds and thinner PCBs
- Stable Dk (2.7) and loss (0.006) from 1 MHz–10 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 laminates
- Compatible with Omega-ply
- Low outgassing for space applications

### Processing

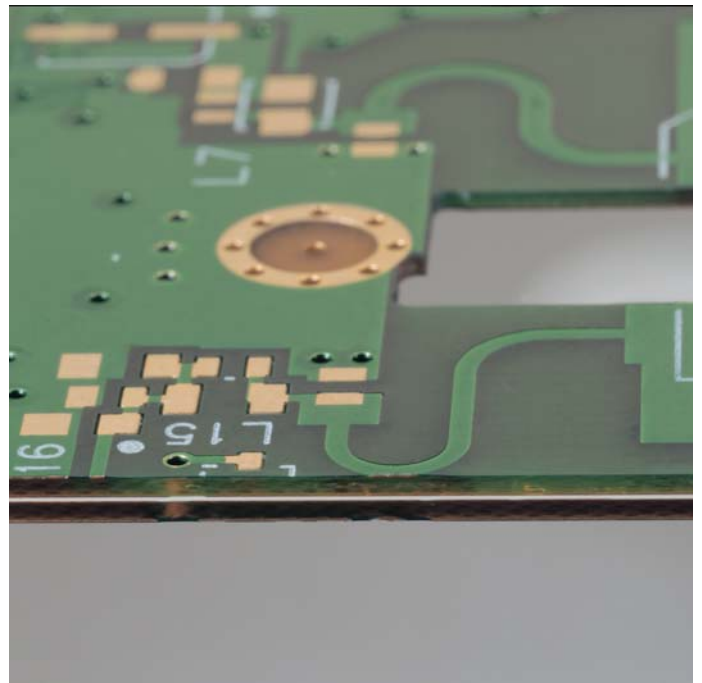
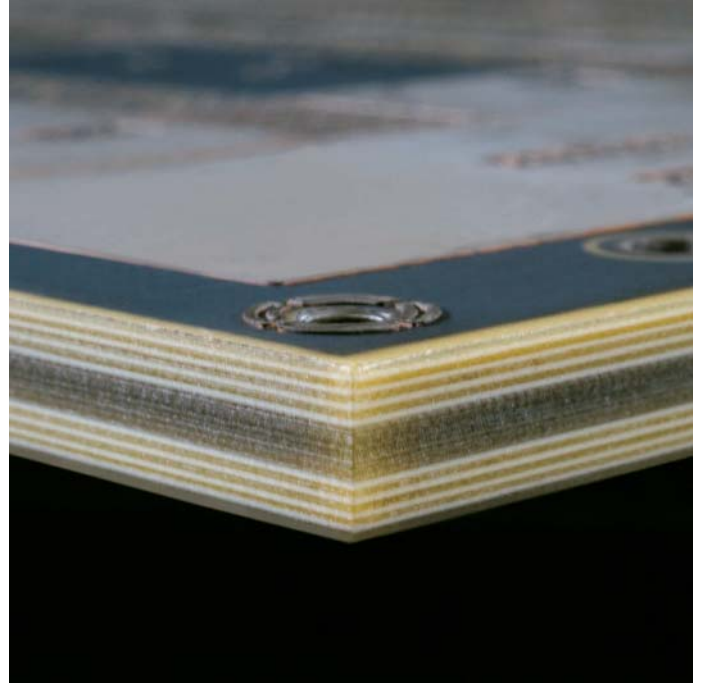
- Repeatable, low X-Y resin flow for cavity designs
- Fills buried vias during lamination
- Standard high Tg FR4 lamination cycle
- Laser drilling 2–5x faster than glass prepreps

### High Density

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

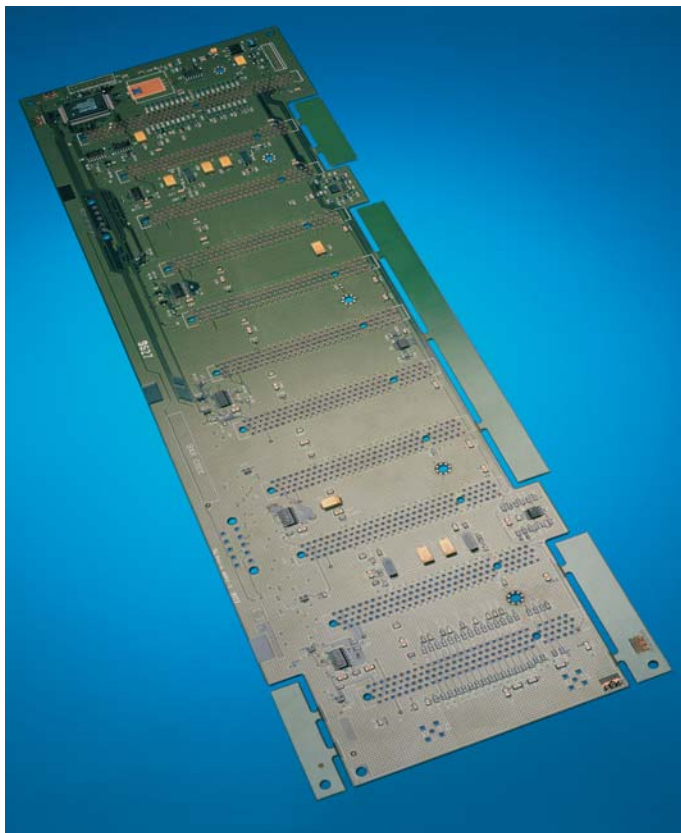
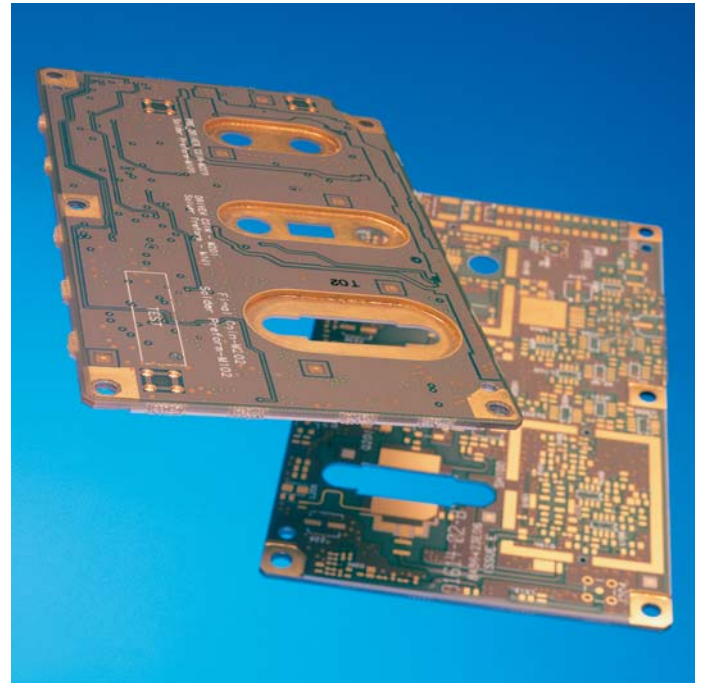
## Typical Applications

- Combine with halogen free FR4 cores for cost/performance
- Combine with RF laminates for high performance
- Base station power amplifiers and other cavity PCBs
- High-speed digital backplanes, routers, and servers
- RF and microwave boards



**Material Properties**

Property	Unit	Test Condition	Typical Value
Dielectric constant (Dk)	—	Split post resonant cavity (1 MHz–10 GHz)	2.7
Loss tangent (Df)	—	Split post resonant cavity (1 MHz–10 GHz)	0.006
Peel strength	Kg/cm (pli)	17 $\mu$ m (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	$\mu$ m (mil)		57, 86 (2.2, 3.4)



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