

Kittanning Company Takes Aim at the \$2 Billion Fiberglass Fabric Market

For many, the idea of glass stopping bullets may seem strange, but not to an innovative manufacturer of a revolutionary lightweight glass fiber fabric.

[Dielectric Solutions](#), based in the northern Pittsburgh suburb of Kittanning, has developed a new leading-edge process for weaving fiberglass that's thinner, lighter and stronger than any previous technologies could muster. The fabric has uses in a wide range of industries, from printed circuit boards (PCB) to antiballistic armor plating for military vehicles.

"Glass fibers are a key component in the composite that stops bullets," says Ken Beer, vice president of Dielectric Solutions, a manufacturer of ultrathin glass fiber fabrics. "Glass fibers provide strength to the composite and enable ballistic armor to dissipate the force of a projectile."

"We developed several new technologies that have enabled us to revolutionize the fiberglass fabric reinforcements industry," says Beer. "And we did it by eliminating half of the manufacturing process. The resulting fabric is stronger, flatter, more dimensionally stable and can be produced at a competitive price." Even more promising is the fact that the technology has multiple markets. This new fiberglass can be used in high-end computer equipment as well.



Dielectric Solutions' technology, like the loom shown here, has revolutionized the fiberglass fabric reinforcements industry—in large part by eliminating half the manufacturing process.

Staying on the Leading Edge

Despite taking a technology and leaping it ahead 40 years, Dielectric Solutions is not resting on its laurels. BFTP recently provided \$50,000 to help the company further improve the manufacturing process. The new process will enable one of the company's key technologies to work in a wide range of matrix resins or coatings in customers' applications. It will also make the company's other key technology, Zero Twist yarn, even flatter and more dimensionally stable.

"Both of these benefits will open new doors for us in high-end electronics," notes Beer.

Dielectric Solutions, which currently employs 60, is taking aim at the nearly \$2 billion fiberglass fabric market by customizing its product for a variety of industries, from the military to Internet component companies to high-end electronics manufacturers.

"After we struggled through the devastating crash of the PCB industry five years ago, we learned that it was important to diversify our markets," Beer says. "So we also focus on certain strategic industrial applications such as electrical insulation for high voltage and electronic applications."

All of Dielectric Solutions operations—including glass melting, and fiber forming, warping, entering, and weaving—take place at the company facility in Kittanning, and that operation will be buzzing with new activity in the coming months. According to Beer, the company anticipates two new hiring cycles before year-end, possibly adding 35 additional manufacturing jobs within six months.

Despite the challenges of overseas competition, Beer sees the glass as more than half full. "We manage to stay competitive through superior technology. The only place to go from here is up, up and away!" says Beer. "I see huge opportunities in aerospace and electronics as we continue to broaden our strategic industrial market base."

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—KEN BEER, VICE PRESIDENT,
DIELECTRIC SOLUTIONS
