

## **AGY Introduces L-Glass™ Fiber for High Frequency, Improved Signal Integrity Circuit Designs**

Aiken, SC, USA - (March 24, 2009) - In response to the rapid development of high-speed digital electronic systems, AGY, a leading global producer of glass fiber yarns and high-strength glass fiber reinforcements, has introduced *L-Glass*™, a new low-loss glass fiber yarn for printed wiring board (PWB) applications. The low dielectric constant (Dk) and low dissipation factor (Df) properties of *L-Glass* fiber are ideally suited for designs requiring increased signal speeds and better signal integrity than traditional E-Glass/epoxy substrate materials.

According to Scott Northrup, Director of New Business Development at AGY, “Substrate materials that provide low dielectric constant and low dissipation factor properties have become an essential element of high-speed digital systems such as mobile communication base stations, high-end routers and servers, and high speed storage networks. As these systems move to higher processing speeds, substrates with low-loss properties are needed to ensure the speed and integrity of the signals.”

Low-loss laminates for high-speed applications have traditionally been produced in one of two ways. In one method, a higher performing epoxy resin system is used in conjunction with E-Glass. This approach limits the achievable Dk and Df properties.

The second method combines very low Dk/Df resins, such as PTFE, with ceramic filler and a much lower E-Glass content. While these systems can achieve much lower Df/Dk properties, they suffer from high material and processing costs. The low glass loading also reduces the dimensional stability of the laminate. The use of *L-Glass* fiber overcomes these limitations by allowing epoxy resin systems to achieve much lower Dk/Df properties, and the PTFE-based systems to use a higher glass loading.

At 10 GHz *L-Glass* fiber has a dielectric constant of 4.86 and a dissipation factor of 0.0050 whereas E-Glass has a dielectric constant of 6.81 and a dissipation factor of 0.0060 at 10 GHz. The coefficient of thermal expansion (CTE) of *L-Glass* fiber is 3.9 ppm/°C compared to 5.4 ppm/°C for E-Glass. This makes *L-Glass* fiber an attractive material for use in IC packaging, where CTE mismatches with silicon are magnified due to the thermal environment and can cause defects.

AGY's *L-Glass* fibers will be available in a variety of yarn counts, that will allow production of low-loss fabrics analogous to styles 106, 1080, 2113/2313, and 2116. Additional yarn counts can be produced as needed to meet market demands.

“*L-Glass* fiber is a cost-effective alternative to current systems,” added Northrup. “The low-loss properties make it ideal for applications operating at the highest signal speeds and provide designers a compelling alternative to traditional materials.”

For more information about *L-Glass* low-loss glass fiber yarn products, please call 86-21-58122168, or visit AGY's website at [www.agy.com](http://www.agy.com).

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**About AGY**

AGY is a leading global producer of glass fiber yarns and high-strength glass fiber reinforcements used in a variety of composites applications. The company serves a diverse range of markets including aerospace and defense, electronics, construction and industrial. Headquartered in Aiken, South Carolina USA, AGY has a European office in Lyon, France and manufacturing facilities in the U.S. in Aiken, South Carolina and Huntingdon, Pennsylvania and Shanghai, China.