

Real-Time Monitoring Gains Acceptance

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While using sophisticated technology to generate real-time manufacturing data is – by many accounts – still a novelty throughout most of the textile industry, the idea is gaining increased acceptance for carpet fiber production.

The rapid speeds and sheer volumes that are associated with carpet fiber manufacturing – a few hours of production can fill a pallet with packages for downstream use – have influenced producers in the sector to consider real-time monitoring tools that yield instantaneous feedback.

Universal Fiber Systems recent implementation of the Attalus Fiber System, offered by Instrumar Ltd., illustrates the industry's growing willingness to embrace monitoring technology.

Universal, a Bristol, Va multi-platform producer of solution-dyed yarns for the carpeting, textile and industrial fibers markets, installed the system early last year. According to the company, the Attalus system is allowing it to store information and

provide 100 percent traceability on packages produced.

At Universal, the system is integrated with label printers and prints out a label for each package produced. Information includes date, time, lot/merge and the package's quality grade. If a downgrade package is produced, the operator has the opportunity to identify and segregate the package and fix process issues in real time.

"The main objective is understanding what's in that package," said Howard Bartholomay, the company's director of automotive sales. "Attalus is monitoring attributes of our yarn so we can understand what's in the package and it (offers notice) if you have to make changes to reduce downgrades and scrap." The Attalus system provides Universal Fibers with real-time data on items such as: finish level of the yarn, bulk uniformity and shrinkage.

According to Mr. Bartholomay, starting in January 2005, Universal Fibers began using the Attalus system on two of its lines producing carpet fibers for the automotive industry. He

said the company chose Attalus for its automotive division first because of that industry's competitive but profitable nature. Nearly a third of the Universal Fibers' 60 million pounds of annual total capacity is generated from automotive carpet fiber production.


"The one-step single color (bulk continuous fiber) yarn presents

some challenges to us from a quality standpoint as far as supplying something that is constant," Mr. Bartholomay said. "You're striving for color uniformity in BCF Bulk, shrinkage, tension, tack count – all those elements are very critical in a cut-pile single color construction."

"Uniformity is the key focal area," said Stuart Inkpen, president of Instrumar. "Can you make the same fiber this minute as you made the hour before as you made the day before? No matter the product, manufacturers need to know that they produced the same item and not allow deviations to get out the door. Even one package in 800 (that is not uniform) is a really big deal downstream in warping or tufting."

Longer term, Mr. Bartholomay said another benefit of Attalus is its ability to generate information that will enable Universal Fibers to evaluate different types of raw material streams for the future. "Statistically, the system is gathering information so you can change heats and dial in your process based on the attributes that you've been gathering and measuring against," he explained. "You don't have to start from scratch."

The Attalus systems on the two automotive lines have "paid for themselves," Mr. Bartholomay said. Universal Fibers is in the process of increasing the number of lines devoted to carpet fiber production and its goal is to install the Attalus system for each of its automotive lines.

Instrumar's Attalus System supplies never-before-seen, real-time, online product and process information used to maximize the manufacturer's competitive advantage through improved quality, yield, efficiency and customer satisfaction. Instrumar is a privately held company headquartered in St. John's, Newfoundland, Canada. 



The Attalus System provides the information needed to increase Universal's manufacturing potential.