



# Technical fabrics take green route

Consumer demand together with market economics were driving innovation in 'green' technical textiles at the recent Techtextil West '09. Kathlyn Swantko reports from Las Vegas.

"Many people report that green is just another trend. Our data shows that it's not a trend, but a reality. Currently, one-third of U.S. companies with revenues of US\$100 million or more have been asked to engage in green initiatives by their customers. And, smaller companies are not far behind, at 20%."

This statement, from Tom Murphy, executive VP of business consultancy RSM McGladrey, Inc., Minneapolis, MN, in his Techtextil presentation entitled, "U.S. Manufacturing Still Strong", emphasises the importance that eco-manufacturing has for the future of U.S. production.

Furthermore, Murphy stated, "A key point here is that the market is driving the green movement. Consumers want green products and manufacturers are making them. This is free enterprise at its best. We all want green and know it's the right thing to do, so let the market make it happen!"

The automotive industry is one market segment that is highly influenced by sustainability. Stephanie Rogers, president of Automotive Textile Solutions, Longmont, CO, explained that automakers are now realising that sustainability is about more than just improving the vehicles miles per gallon (mpg).

Rogers stated, "Although mpg is indeed the primary issue, the materials that go into making an automobile are also important. The good news for the textile industry is that textile technology is an important factor in the quest for increasing mpg, as well as in the quest to make automobile parts, particularly soft trim, from more environmentally responsible materials. The stakes for the auto companies are high because sustainability is becoming more and more one of the significant factors in the public's buying decision."

The Techtextil West '09, organised by Messe Frankfurt was recently held in Las Vegas and it was clear that the issue of the environment and sustainability is now also taking centre stage on the technical textiles front.

## Re-ginned cotton

TJ Beall, a Georgia based company that sells cotton, made from re-ginned motes was making a splash about its new Ultra clean products. (Motes are the by-product of the lint cleaning process after the seed has been removed from the cotton.)

The company buys Motes from all of the cotton-producing regions in the United States. It warehouses the gin motes (i.e. raw motes, semi-processed motes, and motes processed through lint cleaners), as well as cotton samples, and off-grade/damaged cotton in its 750,000 square-

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foot Drew, Miss., facility. The company then markets the processed cotton products to the nonwovens, spinning, and absorbents industries.

The company's Ultra Clean product, is said to be significantly more sustainable than currently used 100% polyester fibre nonwoven products since it offers a non-scoured, non-bleached, 100% cotton fibre. Beall claims the production uses no water or chemicals in a unique dry process that removes 99.97% of the foreign matter from the fibre and a purification process yields a premium natural product that runs on existing nonwovens machinery. "It is also naturally biodegradable, compostable, recyclable, renewable, and sustainable," said the company.

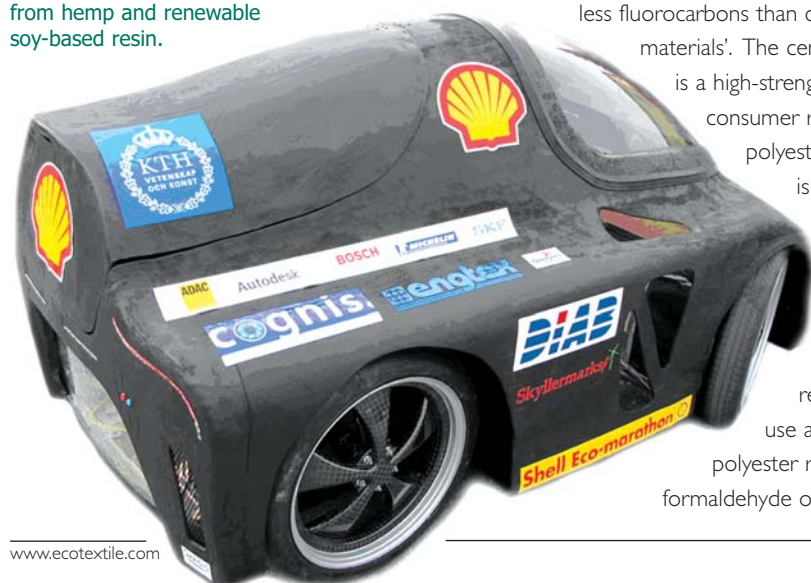
## Textile waste

Another fibre and textile waste processor, Leigh Fibers, Inc. founded in 1922, has always been an active buyer and seller of textile waste. Today, it claims to be the largest textile waste and by-product reprocessing company in North America and has a reputation for being a quality supplier of recycled textile products.

Leigh Fibers used Techtexil to further promote its position as a sustainable supplier and a recycler of all types of textile and fibre wastes. The company's cotton waste department processes all types of cotton waste, bringing it back into fibre, including cotton and polyester/cotton thread waste, polyester tow and filament waste, apparel cuttings, carpet yarn waste and scraps, and selvedge waste.

Using specialised equipment, Leigh Fibers says it can blend and process almost any variety of waste to produce grades with the desired characteristics of colour, fibre length, material

**The emergence of new eco-composite materials offers new opportunities for producers of sustainable textiles. The chassis of this concept car is made from hemp and renewable soy-based resin.**



Apex Mills' style NK50Aeco, a fabric that utilises its EcoRich recycled yarn.

openness, fibre content (cotton, polyester, nylon, etc) and fibre denier. The company often works with customers to design grades for special applications. Examples include grades made from white thread waste for filters, polyester filaments for blankets, carpet waste for carpet underlay pads, apparel cuttings for automotive sound deadening pads, cuttings and threads for mattress insulator pads.

US textile dyer Duro Textiles has grown to become one of the country's largest dyers, printers, finishers and distributors of textile products. At Techtexil it was showing its new 'Eco-Layer' fabric technology, a high performance composite material that is manufactured with low environmental impact and is completely recyclable.

## Three layer eco-composite

Touted as the "greenest gear on the mountain", Eco-Layer is a three-layer textile composite, made using a 100% recyclable, earth-friendly construction. The top water-repellent layer is a durable nano-based product that repels stains and water; is washable, and uses up to '10 times less fluorocarbons than comparable materials'. The centre fabric layer is a high-strength post-consumer recycled polyester textile, which is available in a variety of deniers. The bottom layer is made of a completely recyclable post-use and water-based polyester resin, with no formaldehyde or VOCs (volatile

organic compounds). End-use applications include performance apparel, backpacks, tents, etc.

Meanwhile the 'Clarino division of the Japanese Group Kuraray introduced its environmental 'Tirrenina' line of non-solvent microfibre woven fabric that looks and feels like natural suede leather:

"We are committed to opening new fields of business, using pioneering technology and contributing to an improved natural environment and quality of life", said the company at the show.

The production process for 'Tirrenina' eliminates all solvents by using hot water to extract and produce the polymer (from an unnamed sea-based source) and uses non-solvent PU in dyeing/coating. Tirrenina features low PU content and is claimed to give excellent tear strength and a superior hand. Initial data show that the material reduces the use of water by 70%, the use of organic solvent by 99%, and CO<sub>2</sub> emissions by 35%.

## Warp knit shoe fabrics

Meanwhile, Apex Mills is now working closely with a leading shoe component supplier to develop several new ecologically-friendly lining fabrics and was talking up its 'EcoRich' family of fabrics at the Techtexil show.

The company provides a range of warp knit fabrics including mesh, spacer and tricot knits including fabrics dyed with vegetable dyes, 'low eco-impact synthetic dyes', non-synthetic sustainable yarns, and post-consumer and post-industrial recycled yarns. The company has developed its entire programme so that nearly every fabric it produces can now be reproduced as "green" to fit into its EcoRich family, without changing the characteristics or performance of the original fabric.