

Breathe-O-Prene is ideal for a number of safety applications in the medical, safety, sporting goods, military and footwear markets. Breathe-O-Prene products will keep the user cool, dry and comfortable.



Held in conjunction with the ATME-I textile machinery show, the IFAI exhibition drew record crowds and revealed some interesting new knitted fabrics.

By Kathlyn Swantko.

# CROWDS FLOCK TO IFAI

The IFAI exhibition held at the MEGAtex conference and trade show, from October 30th - November 2nd, at the Georgia World Congress Centre, Atlanta, USA drew recording busting crowds as the eight-market-specific symposiums proved to be a tremendous hit with attendees.

The event was organized by three major associations: AATCC (American Association of Textile Chemists and Colorists), ATMA (American Textile Machinery Association), and IFAI (Industrial Fabrics Association International), and supported by 10 additional textile related associations. The event occupied two separate exhibition halls at congress centre with

the side-by-side trade shows offering attendees the most informative and accessible show to date.

The final attendance numbers were still being tabulated as of the writing of this article. However, Joanne Ferris, director of marketing for IFAI, was very enthusiastic about the preliminary numbers for IFAI's Expo 2006. She said, "The big news for IFAI was the record-breaking attendance. The buzz on the show floor was that this Expo was a roaring success! The eight-market-specific symposiums proved to be a tremendous hit with attendees."

The initial figures indicate that over 8,300 participants filled the aisles for the three day event. There were 441 exhibitors at IFAI Expo 2006, who made

good use of over 91,000 net square feet of exhibit space.

The trend towards sustainability was present at the show, with several IFAI exhibitors featuring new eco-friendly product developments. One product is a new generation thermal polyurethane (TPU) coated Toughtek fabric from **Harrison Technologies** for the glove market. This fabric, with a 100% poly knit backing, provides the same comfort, abrasion-resistance, non-slip, leather-like grip qualities as the original polyvinyl chloride (PVC) fabric used in the original Toughtek, but it is more earth friendly.

According to Gary Becker, president of Harrison Technologies, TPU is a water-based product, which doesn't release harsh chemicals into the

atmosphere during production, like the PVC product does. Another advantage, he points to, is that TPU is bio-degradable over about a ten-year time frame, while PVC is not bio-degradable.

The use of such water-based polyurethane dispersions (PUD's) is a rapidly growing segment of the polyurethane coating industry brought on by environmental legislation such as the clean air act. These versatile and more environmentally sensitive chemicals are available in a wide range of compliant coatings for many different substrates. Their versatility and array of superior properties, such as abrasion resistance, impact strength, and low temperature flexibility are expanding their usage in a variety of applications.

**Non-PVC coated fabric**

**Shawmut Mills** also featured a new "non-PVC coated" knit fabric, which is being printed and offered to the commercial interiors wall-covering market to reduce the negative environmental effects associated with vinyl wall coverings made from PVC. Shawmut did not disclose what material they are using in its "non-PVC coating". Although Shawmut did not disclose what material they are using, it is being touted as an alternative earth-friendly fabric for green construction and for use in a more sustainable designed environment.



**King Tech Industry Corp. Reflective Materials**  
**Underneath: Breathable Reflective Elastic Poly knit**  
**Above: Breathable Reflective Poly Knit.**

Interest in antimicrobial products also continues to be important in a variety of safety & protective, medical, and sports textile applications.

New antimicrobial developments showcased at IFAI included new silver-based products from AccuMED and **Molintex Mills**.

*Knitting International* looks at these products, as well as other applications for knits featured at this year's expanded IFAI Expo.

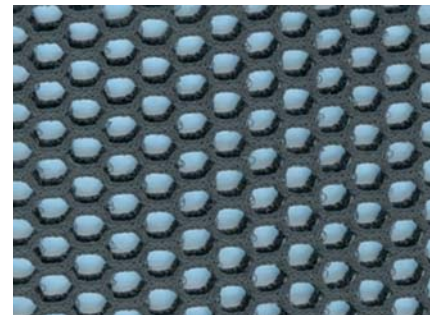
**Mesh, netting and spacers**

US-based supplier and manufacturer, **Apex Mills** says it prides itself in providing innovative solutions for its customers, and for taking advantage of changing market opportunities. For over sixty years, the company, which is headquartered in Inwood, New York, has been supplying mesh, netting, spacer fabrics, and tricot knit solutions to an expanding array of customers in the industrial market and such government related industries as aero-space/composite materials, automotive, agriculture/aquaculture, institutional/home healthcare, environmental, filtration, transportation safety, footwear, recreational sports, and the military. Apex typically uses performance polyester and nylon in the four major knit constructions it manufactures.

Apex is niche market focused, and watches market changes closely. According to Jonathan Kurz, chief operating officer for the company, "Apex creates its performance fabrics for the sole purpose of helping customers solve problems and realize new market opportunities." Kurz indicated that Apex is currently working on new technology for ANSI compliant fabrics.

**King Tech Industry Corporation** has offices in the USA, Europe (UK), and manufacturing and technology centres in Shanghai, China. King Tech produces reflective fabric utilizing glass spheres that are bonded to the fabric with a waterproof/breathable, flexible resin. The firm uses nylon, polyester/cotton, or 100% polyester knits or woven fabric as backing for its reflective fabric/tape, which is ANSI/ISEA certified.

Tom King, vice president of the company, explained, "The coating



**Apex Mills Spacer Fabrics**  
**Above: 100% Polyester 8.5oz.**  
**Below: 100% Polyester 13.70oz.**

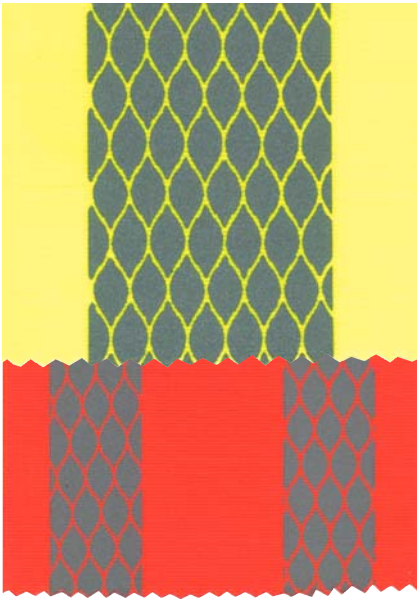


process used for applying our all-over reflective patterns to the fabric backing is proven safer than relying strictly on reflective tapes placed in strategic areas of a garment, because the all-over pattern can cover the entire garment. Therefore, it provides an outline of the entire body when the light is reflected. Tests also show that a garment made with King Tech's reflective fabrics is also 300% brighter than a printed reflective material, as well as being more durable."

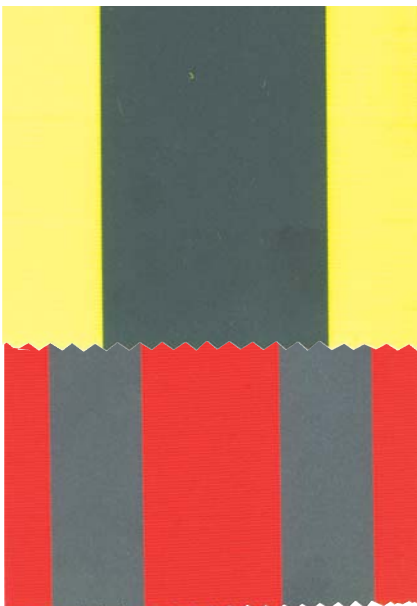
On the medical textile front, **AccuMED** based in Buffalo, New York, provides products for the medical, industrial, footwear, sporting goods, safety, and military industries. At IFAI, the company showcased three new hybrid fabrics, which utilise its flagship fabric, 'Breathe-O-Prene', a unique latex- and adhesive-free material that is ideal for applications requiring maximum breathability and moisture control.

AccuMED's new hybrid fabrics: FiberX, Silvertex, and eShield are built on the Breathe-O-Prene platform and include other state-of-the-art materials, such as silver nanocrystals and the healing fibre, Holofiber, to meet the specific needs of its customers in a broad range of applications.

"These three products combine the comfort and performance of Breathe-O-Prene with high-tech materials that will allow our customers to develop more



**King Tech Industry Corp. Reflective Materials**  
**Underneath: 100% Poly Breathable Trim**  
**Above: 100% Poly Breathable Split Trim**



**King Tech Industry Corp. Reflective Materials**  
**Underneath: 100% Poly Tricot Trim**  
**Above: 100% Poly Tricot Split Trim**

advanced products for their specific markets,” said Tamer Elsamahy, vice president of product technology. “The launch of FiberX, SILVERtec, and eShield will allow us to better serve the needs of our diverse customer base as we continue to drive innovation with the most sophisticated and creative fabrics in the industry”

With an outer layer of HoloFiber, from **Wellman Inc.**, FiberX is the Breath-O-Prene fabric which is claimed to actually increase oxygen levels in the body by

reflecting released energy back into the skin. FiberX can be used in healing and tissue recovery, and is particularly suitable for patients with diabetes and other circulatory problems. For athletes, the increase oxygen levels provided by FiberX can improve muscle recovery time and reduce cramping.

AccuMED designed SILVERtec to neutralize and prevent the growth of bacteria by embedding silver nanocrystals into the Breathe-O-Prene composite. SILVERtec, which is nonabrasive and odorless, is designed for the care of wounds, burns, and general hygiene, as well as for athletes looking to eliminate bacteria and odor from equipment.

AccuMED’s third new product, eShield, is a composite fabric with four distinct layers, that allows moisture to escape from the body while preventing wind and rain from penetrating its outer layer. e-Shield provides breathability and comfort through a four-way stretch fabric.

In addition to its next generation Toughtek fabric, made from thermal polyurethane and mentioned earlier in this article, Harrison Technologies also used IFAI to launch its new EXPEL product. The Broadalbin, New York-based company specialises in providing full garment packages, gear bags, and hunting products. Its new EXPEL insect armor is a registered trademark for a line of fabrics treated with an active ingredient that repels mosquitoes, ticks, spiders, dust mites, fleas, and other flying and crawling insects.

The key ingredient in EXPEL is permethrin a synthesized compound that closely resembles a botanical compound derived from the chrysanthemum that has been augmented to provide greater repellency and stability from sunlight and oxidation. It is claimed to be resistant to heat, odourless, and non-irritating to the skin. According to Becker of Harrison Technologies, the EXPEL treatment is impregnated into the fiber before the fabric is knit or woven, and provides effective repellency for up to 50 washings. EXPEL is EPA registered and approved for safety.

EXPEL was originally developed for

the military to protect soldiers abroad, but is now available in commercial fabrics for hunters, fishermen, campers, and families in insect-prone areas. Typical applications include tents, sleeping bags, screen houses, apparel, hats, shoes, outdoor patio furniture, pet beds, and horse blankets.

### Nanotechnology

Initially a supplier of industrial fabrics to various markets, including flag, military, outerwear, coating trades, medical, and home furnishings, **Molintex** is a Jamesburg, New Jersey-based company with 40 years experience of making engineering top quality fabrics. The vertical operation offers product development in a wide range of fabrics from 30 denier to 1250 denier, utilizing nylon, polyester, cotton, and blends in a variety of woven and knit constructions. Molintex also offers a variety of finishes on its fabrics including durable water resistant (DWR), fire retardant (FR), and UV resistant, along with broad range of coating options.

At IFAI, Molintex launched its new MicroSilver technology, which uses nanotechnology to bind 100% pure silver to the fiber. Donn Molineux, sales and business development director for the company, explained that there is an increased need for effective antimicrobial products for the medical and healthcare markets. He stated, “There are 6,000 hospitals and 5,700 infection control professionals in this country. And, because individual states are now beginning to require hospitals to publish their infection rates, there is tremendous pressure within the hospital and healthcare communities in the U.S. to reduce their rate of infection.” According to Molineux seven states already have such legislation, and eleven more states will be added shortly.

Molintex Mills developed its new MicroSilver anti-microbial product with 100% pure silver, because it is “99.9% effective in reducing bacteria”. Besides the antimicrobial/anti-odor advantages provided, the MicroSilver yarn also contains molecular ceramics that block out the harmful rays of the sun, and provides an additional thermo-regulation quality and protection for the skin, said the company. **KI**