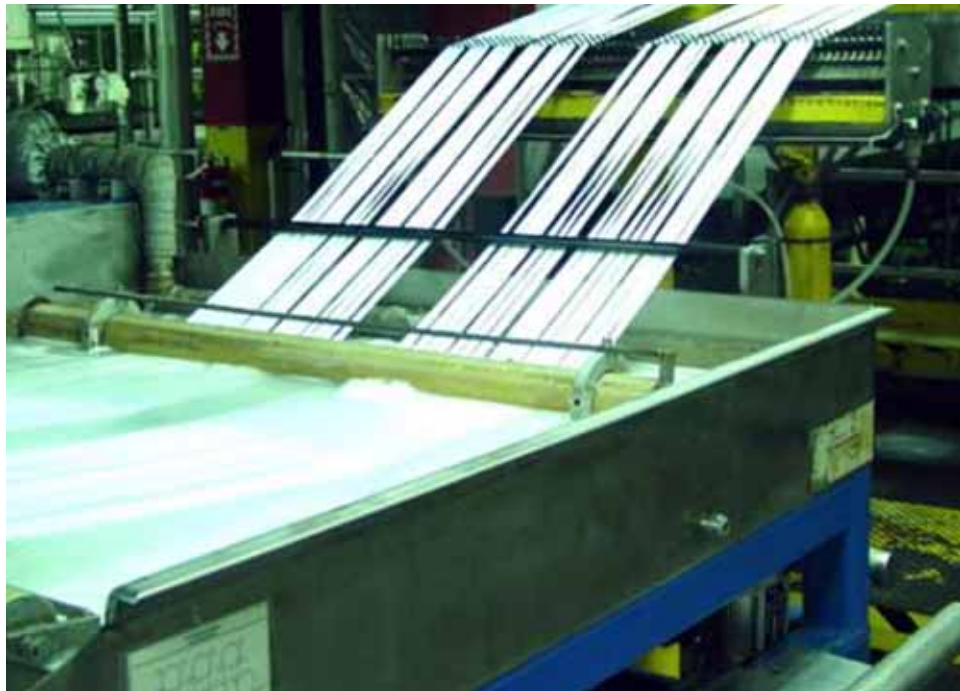


holofiber

From socks to pillows, Wellman and Holofiber's 'smart textile' getting smarter



Wellman Inc. has manufacturing facilities around the globe. One of the primary operations is located in Florence, S.C. where the company produces chemical-based fibers and PET packaging resins.

by BRENT CHILDERS, *Editor*

In an era where marketing seems to influence all facets of consumerism, it often can prove difficult to distinguish reality from spin – especially when it comes to products doing what the marketing claims it can do.

So its easy to see that when a company touts that it has developed one of the first “smart textiles” within the nanotechnology arena, some folks naturally will be curious whether the product performs as well as the maker says it does.

The people with Wellman Inc., headquartered in Fort Mill, S.C., and Holofiber LLC of Los Angeles probably realized they were going to have a challenge when they developed a fiber product that when incorporated into apparel products makes the wearer of the product feel better:

Complicating the matter would be the fact that the secret behind this material – Holofiber® – involves a science that would have have to be locked away in a vault for obvious reasons.

Holofiber®, touted as the world's first body-responsive fiber, was introduced last year after 10 years of development by Hologenix – a joint venture company formed by Wellman Inc. and Holofiber LLC.

Holofiber's polyester base features a permanent, proprietary, optically responsive active ingredient that transforms ambient light energy and energy emitted by the body into energy with a different wavelength that

the body then can reabsorb. The body uses this reabsorbed energy in a biological process known as the Krebs cycle, which converts acetate into carbon dioxide and water, relaxing capillaries and releasing energy. This release leads to increased oxygen levels, accelerating muscle recovery and building strength and building strength – attributes that aid in relieving pain associated with blood circulation loss caused by hardening of the arteries in diabetes sufferers. So when When Holofiber® is worn as clothing, or placed near a person (in a bed sheet or pillowcase) it transmits the altered energy to the body. This energy sent to the body by Holofiber® helps the body's cells to be better oxygenated. Holofiber® absorbs the light energy, altering it and re-emitting it immediately but also over a period of time, which means it does not have to be subject to a continuous exposure of light in order to function effectively.

The effects of better oxygenation on the body have been the described by many satisfied users. Over the past year, the beneficial effect of Holofiber® has been measured in clinical studies, first among diabetics, then among “non-challenged” subjects.

In each instance, measurements of oxygenation levels in the skin have shown a significant increase in oxygen levels after wearing Holofiber® fabrics.

Sounds pretty amazing. But how do you

convince people it does all that without revealing the secrets behind the product.

It appears that the marketing folks at Hologenix, the company formed to manufacture and market the Holofiber® may have settled on “seeing is believing” as one approach – put the product out there and allow those who use to say what they think of its performance.

The results appear solidly convincing – particular for application in socks and medical hosiery:

“I am a runner from Kenya...A week ago, my Achilles were really tight and [my friend] recommended me to wear your product which was of great help...Thanks for coming up with such a great product.”

– Simon Kamata, Runner, Eugene, Oregon

“Not only have the Holofiber socks increased circulation in my feet and changed my response to walking through a golf game forever, I am willing to bet that they are the reason why I haven't had athlete's foot since I started wearing them. I now wear nothing but Holofiber socks...”

– Stan Heath, Narrowsburg, New York

“I used my Superwool socks for a 80 km trek through some of Newfoundland's swampiest terrain and didn't have a single blister. When I received the Holofiber socks I put on an addi-

tional 30 kms two days later. Still no blisters and my feet are not as swollen as they usually are."

– Lawrence Foster, Adventure Racer, Canada

"I have been a type II diabetic for 15 years and recently neuropathy has been affecting my legs and feet. I tried a number of different support hose and have not been satisfied with their performance. In many cases they restricted the blood flow and ended up increasing the pain. Your socks have been fantastic. I seem to get the support that I need without the restrictions. They not only help with the numbness but provide the support that I need to assist me in walking."

– Frank S. Chase, Nashua, New Hampshire

"I received a pair of your sports socks at the MedTrade trade show. When I got a blister on my heel from the shoes that I was wearing, I decided to test your socks for comfort since I knew I would be on my feet again all day. I have to tell you I never felt my blister all day long. These were definitely the most comfortable pair of socks that I have ever worn. I have been raving about them to all my co-workers and to my husband."

– Dava Harris, occupational therapist, Atlanta

"The use of the Holofiber socks was instrumental in me making a speedy recovery from plantar fasciitis. The socks helped in blood circulation which ultimately aided in my healing. I would recommend them to anyone with similar problems."

– Troy Murphy, NBA Forward, Golden State



Warriors

"My husband has been suffering from diabetes since the 70's, accompanied by bad circulation and neuropathy... He has had one toe removed and spends most of his time in bed... The Holofiber stockings are marvelous! My husband's circulation has improved tremendously. His legs do not swell as they did before wearing the hose, the stocking do not feel constricting, and they are very comfortable."

– Margaret Kalik, St Thomas, USVJ

"After my daughter returned from an intense

hiking trip, she suffered from tendonitis in both her knees. However, she only had one week to rest her knees before starting three weeks of intense soccer training

camps, as well as pre-season hockey skating. As soon as I received the knee wraps I had her wear them any time she was at home and at night while sleeping. After wearing them for 3 or 4 days, her knees already felt better and even after the exertion of the first day of camp her knees felt fine. She continues to wear them and till today, after about two weeks of camp, the pain has not returned."

– Bill Madaras, Wilton, Connecticut

Seen enough?

Knowing that there may be some still not convinced, Legwear Trends contacted several of the folks quoted above to get some comments firsthand.

Madaras, owner of a shoe manufacturing company, says he is one of those people who are skeptical of products performing as well as the manufacturer says they perform – especially when it comes to the products he uses in his shoes.

"I don't want to tell my customers this really works and that they later find it doesn't," Madaras said. "I did the research on holofiber and it looked pretty exciting. I started using in shoe linings and my customers love it."

Frank Chase said that he is still wearing diabetic socks and he is still a believer in

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holofiber.

Diabetics know all too well that they face two major issues: neuropathy, or the loss of sensation, and atherosclerosis, or hardening of the arteries, which reduces the circulation of blood in the body.

Atherosclerosis can lead to a number of conditions, including aching feet, leg pain and problems with slowness in wound healing. Symptoms include cold feet, pain in the legs when walking and pain in the feet when reclining.

The value of Holofiber to diabetics was demonstrated in a double blind clinical study conducted by Lawrence A. Lavery, DPM, MPH, an associate professor in the department of orthopaedic surgery and rehabilitation at Loyola University Medical Center and Hines Veterans Administration Hospital in Chicago, Illinois.

Lavery and his staff used Holofiber and non-Holofiber products (socks, gloves) on the feet and hands of patients. After less than an hour, patients wearing Holofiber were observed to have reaped benefits: measurably increased oxygen levels observed and recorded in the body and blood in subjects wearing the Holofiber products.

Jim Ciccone, marketing director for Hologenix, can cite testimony after testimony from folks using holofiber and who have experienced the benefits – from bicyclists who can ride longer with a seat made of holofiber to athletes who use it in everything from socks to bodysuits.

Michellie Jones, the Olympic Medalist, world-class triathlete, has noted that wearing Holofiber “helps with recovery and circulation,” and not only when exercising or afterwards. Michellie has taken to wearing Holofiber during her regular 16-hour trans-Pacific airline flights, noting that the

improved circulation she experiences means less muscle fatigue.

Ciccone said the company is pleased to announce that the holofiber is getting ready to make headlines in the bedding and cushion-fill arenas. Although he couldn't give all the details, he advised keeping tabs on some mainstream retailers in those markets – Belk stores and Bed, Bath and Beyond to name one.

Suffice it to say that if you've had a long day and feeling a little tense from the office, you might want to pick up one of the holofiber pillows now available at Belk.

The holofiber application for socks is certainly not Wellman's first foray into the hosiery business.

The company made hosiery news headlines in 2001 when it announced it had begun producing a line of fibers for the next generation of sock producers with its ComFortrel XP®, Sensura®, Spunnaire®, and ComFortrel Plus®.

Wellman supplies high-performance synthetic fibers to the hosiery industry which allows for new eye-catching aesthetics and improved performance for socks.

ComFortrel XP is a fiber that puts comfort first, because it allows customers to engineer superior breathability and wickability into soft, natural-feeling fabrics. Through a unique patented polymer modification and the physical design of the fiber itself, ComFortrel XP gives fabrics a fresher, softer, noticeably cooler feeling. On top of its soft, natural hand, ComFortrel XP also has superb pill resistance, excellent shape retention and a stability that insures against wrinkling, stretching and shrinking.

And then there's Wellman's activated carbon – or Traptex project.

Stay tuned.

DEPARTMENT STORES MAKE COMEBACK IN RETAILING

The big get bigger and full-line retailing continues a strong growth pattern in the U.S. Such is the picture in the recent report of the top 100 retailers as compiled by Stores magazine.

Wal-Mart with 2004 sales of over \$288.1 billion continued to dominate the mass market. With combined sales of just over \$56 billion, **Sears** and **Kmart** would have moved to third spot, just behind Home Depot. But Sears and Kmart reported sharp decreases for same year sales while others were moving at healthy clips.

Costco and **Target** were neck-and-neck competitors, each reporting sales around \$47 billion. With a 10.8 per cent increase in sales, Costco was planning 30 new stores this year. Target had shed fading **Mervyns** and **Marshall Field**, while adding more grocery and drug merchandise and items for the trendy set.

It has been a growth year for department stores, a troubled sector.

J.C. Penney with almost 1,100 stores had sales in excess of \$18 billion and **Federated Department Stores** with 459 locations that include **Bloomingdales** and **Macy's** had sales of \$15.6 billion – up 2.4 per cent. **Dillards** seemed to have turned the corner, with sales exceeding \$7.6 billion as it moved to upscale brands and merchandise.

Conservative **Belk Stores**, with the purchase of 22 **Porfitt** stores and 25 **McRae** locations from **Saks**, showed an 8.2 sales increase with its 232 units.

Venerable **Nordstrom** with only 181 locations had sales of \$7.2 billion, boosting revenue to \$350 per square foot. They have set the benchmark for shoppers preferring quality products.



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