

DNR TEXTILE REPORT

Fabrics Plus



Eyes on the Prize

How do you improve upon the gold standard? Even 32 years after its development, Gore-Tex fabric gets updated

BY SUZANNE HOPPOUGH

NEWARK, Del. — Kayaker Middy Tilghman paddled from glacial conditions in Kyrgyzstan to the unforgiving Gobi Desert. Jo Kippax went to remote regions of western Sichuan to attempt two unclimbed peaks in the Daxue Shan Range. Explorer John Mock traveled the length of Afghanistan's Wakhan Corridor to the source of the Oxus River, crossing the forbidden Dilisang Pass to Pakistan. All were awarded grants by W.L. Gore and wore the company's apparel. For Gore, a company that prides itself on testing, it was one

in 2000 to keep the Gore-Tex name relevant.

What makes Gore's trademark brand magical is a special membrane laminated to high-performance textiles and sealed with a waterproofing solution. The membrane, with over nine billion microscopic pores per square inch, is bonded between extremely breathable fabrics. "Originally it was all about being waterproof. Over the years we've added improved durability and breathability," says Davidson.

The original Gore-Tex concept hasn't changed, but is instead constantly evolving. The most notable innovation of late is the Gore-Tex Pro

"Originally it was all about being waterproof. Over the years we've added improved durability and breathability." —Diane Davidson

of the best quasi-focus groups imaginable.

"We test everything to a level that no one else does," says Diane Davidson, who works in market development for Gore. "We also work closely with consumers. Our core group of consumers, called Mountain Techs, spend at least 70 days a year outside and are outdoor leaders. That's a lot when you think about it."

Gore caters to rugged types with ultra-durable wares. Since 1976, when Gore-Tex was first developed, it has been a favorite for sports enthusiasts. Through the years customers have become more demanding, and Gore has innovated. Back in 1979, Gore Seam Tape was developed to eliminate seam leakage. In 1993, way before the eco-boom, recyclable jackets were produced. Windstopper fabric was developed

Shell, launched last year. A third layer in the garment, invisible to the human eye, employs a new, undisclosed technology engineered for extended extreme conditions. Gore-Tex Paclite Shells are another recent development that caters to the biking and running crowd, where weight and space are critical. Each garment weighs under 15 ounces.

For fall 2008 a Windstopper Technical Fleece will launch with a surprisingly un-Gorelike advertising campaign—the warm and fuzzies. "The fleece is fluffy feeling. People want to touch it," Davidson says. The company has been paying special attention to women, as they've been underserved in the past. Gore is currently doing a study in the U.K. to determine response differences between men and



women, so as to better develop garments to meet their needs.

Nothing at Gore happens without a test. The Elk Mills facility in Elkton, Md., where all of the company's North American fabrics are produced, has the ability to do 900 types of tests employing abrasion and fabric torture. A room of 200 washers and dryers can wash and dry textile samples 24 hours a day, seven days a week, for shrinkage and fading. "We use jet fuel and DEET. We also do bombproof testing," says Louise Brown, manufacturing leader for Gore. "Separation of the layers can cause a product to fail, and we don't want that." Especially when it comes to uniforms for the military, which the company does a lot of. On the day of DNR's visit, a newly developed blue camouflage for the Air Force was undergoing visual inspection.

Testing gets physical in the Gore climate chamber, outfitted with treadmills and space to spend the night. The room temperature ranges from -20 degrees Fahrenheit to 120 degrees, and has the capability to produce 10 mph winds. There, human test subjects outfitted in Gore garments are set up with electrodes to measure heart rates and test physical properties while running in extreme heat and sleeping in the frigid wilderness. Similarly, the rain room has a mannequin that tests the gamut from golf shirts to hunting gear in three inches of rain per hour. Outerwear made for extreme conditions gets the full, one-hour storm test consisting of 22 inches of rain coming from both the top and sides of the room. About 250



Arc'teryx's Gore-Tex Pro Shell jacket "No one does it like we do." ■

garments are tested per year in the Elk Mills rain chamber, while another 1000 are tested in Asia.

Each Gore design undergoes rigorous testing even though Gore is not manufacturing each garment. The company guarantees each item to the public and protects its reputation with strictly enforced licensing agreements. In order for a customer like The North Face or Arc'teryx to obtain Gore-Tex hangtags, Gore has to be involved in development of the product and perform final inspections before mass production.

"We have agreements with a certain amount of customers per category," says Davidson. "We get calls every day, but not all would we want to work with." Quality is the top priority for the company in every category, including others that, like Gore-Tex, use PTFE (polytetrafluoroethylene). Gore also produces Elixir guitar strings and outdoor architectural fabrics, including a tent-like cover in the works for Wimbledon.

Little known to the world, Gore's medical division is experiencing immense growth and is soon expected to surpass fabrics as the company's biggest slice of the sales pie. Grafts, artificial veins and catheter delivery systems cater to baby boomers living longer lives—something Gore is embracing. The company is celebrating the 50-year anniversary of founders Bill and Vieve Gore starting the company in their basement, along with its best two years ever, under CEO Terri Kelly. "We're constantly innovating," says Brown.