



Champion Athletic Apparel Unveils Ultrathin High-Tech Supersuit Parka for Extreme-Weather Warmth and Comfort without the Use of Goose Down

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At just 3 millimeters thick, the Champion Supersuit, which will be tested this spring on Mount Everest, provides equal insulation, greater mobility and superior wind resistance compared with a typical 40-millimeter-thick goose-down parka
WINSTON-SALEM, N.C., Jan 21, 2010 (BUSINESS WIRE) -- Champion Athletic Apparel has unveiled its final prototype of its Champion Supersuit that will be the thinnest extreme-weather apparel gear ever designed and tested at high altitude on Mount Everest.

The *Champion* Supersuit insulation is just 3 millimeters thick, compared with a typical goose-down jacket thickness of 40 millimeters, and uses a nanotechnology insulation layer and a proprietary radiant warmth system. The result is a breakthrough ultrathin cold-weather garment that is no thicker than a typical computer mouse pad but provides equal insulating properties, greater mobility, and superior wind resistance than typical extreme weather gear.

"The *Champion* Supersuit uses advanced technology to conserve, capture and return heat unlike any other extreme-weather apparel currently being used on Everest," said Mike Abbott, director of research and development for Hanesbrands Inc., the parent company of *Champion* apparel. "It has been a rewarding research and development project. By developing the Supersuit and other garment layers to be used on Everest, we have identified new *Champion* products to roll out and new features and enhancements to potentially add to our everyday line of *Champion* Athletic Apparel."

Champion is outfitting a Mount Everest climbing team led by mountaineer Jamie Clarke with cutting-edge socks, base layer, insulating layers, soft shell jackets and pants, hard shell jackets and pants, and the *Champion* Supersuit. Clarke has been testing the gear and will wear a one-piece full-body Supersuit on Everest in April and May to keep him warm and mobile in the high winds and severe cold on the highest reaches of the 29,035-foot mountain.

"We were given the challenge to develop a summit suit that would advance the state of cold-weather gear, that wouldn't look like anything else on the market, and that would protect climbers against extreme temperatures and conditions on Mount Everest," Abbott said. "We have worked with several technology partners in and out of the apparel industry, including Element 21 Golf Company, which supplies the nanotechnology insulating material for the *Champion* Supersuit. We have made some significant breakthroughs, including the ability to use the nano insulation in commercially viable apparel products for the first time."

Hanesbrands has a booth at the Outdoor Retailer Show in Salt Lake City for its *Champion* athleticwear and *Duofold* base layer brands. *Champion* is displaying prototypes of its Supersuit jacket in the booth, and Abbott and Clarke will be in the booth from noon to 4 p.m. Friday to discuss the *Champion* Supersuit project and the Everest expedition.

The Making of the *Champion* Supersuit

The *Champion* Supersuit is made up of four layers, each with unique characteristics to preserve warmth. The Supersuit is designed to prevent the loss of heat via air movement (convection), promote the insulating effect of still air (prevent conduction), and capture heat produced by the body (radiant heat source). Details of the layers include:

Supersuit Outer Layer (anti-convection). A hard-shell polyester fabric mated to a wind-barrier membrane prevents sub-zero winds from penetrating the inner layers and conveying heat away from the body. Blocking strong winds in extreme cold conditions prevents compromising the effectiveness of the insulating and radiating layers of the Supersuit.

Supersuit Nanotechnology Insulation Layer (anti-conduction). The *Champion* Supersuit is the first commercially viable application of Element 21's Zeroloft Aspen Aerogels, which allow the Supersuit to be so thin. Zeroloft insulation has four times the thermal insulation of goose down because the transparent solid gel is made up of nano-sized multisided spheres that have so much surface area that air movement is restricted, which reduces conduction and prevents heat loss.

Radiant Foil (radiant warmth). A metallicized foil membrane reflects heat generated by the body and returns it back to the person wearing the Supersuit through conduction. This body heat is typically lost when apparel relies on insulation alone.

Inner Lining (wicking). Made of polyester technical fabric, the inner lining draws moisture away from the body.

Using the Zeroloft Aspen Aerogels insulation in the *Champion* Supersuit is a breakthrough for the apparel industry. Aerogel is made of puffed glass and is the lightest solid on earth. It has historically been used by the natural gas and oil industries to insulate deep-water pipelines.

"Our expertise and relationships in the textile science industry allowed us to find a material that no one else was using," Abbott said. "We search for proven concepts and materials and determine how to reapply them in the apparel industry. We felt that aerogel had a lot of potential to give our climbing team more mobility while protecting them from the elements."

An additional side benefit of the development of gear for the Everest expedition is that Hanesbrands also plans to use aerogel to insulate equipment in its manufacturing facilities as a way to reduce energy consumption.

From Everest to Everyday Activewear and Athleticwear

The *Champion* and *Duofold* brands will use the Everest project's research discoveries for new products and enhanced products for years to come. The first products inspired by or influenced by the Everest project will come to market in fall 2010.

Champion will introduce Cold Weather Gear that can be layered in various combinations to promote warmth and comfort, a technique that will be used during the Mount Everest expedition. The *Champion* Cold Weather gear is value-priced training activewear made from lightweight fabrics to maximize mobility and reduce bulk, even while layering for warmth in modest temperatures.

The compression base layer, quarter-zip and full-zip tops and soft-shell jackets will feature soft fabrics, ergonomic design for stretch and movement, chafe-resistant seams, lock-down zippers and grip-tape at leg openings for safety, and MP3 and invisible zippers for convenience. The gear is designed for colder-weather training, running, mountain biking, hiking and other outdoor activities.

Duofold will introduce an advanced seamless base layer product in the fall that is identical to that developed for Clarke and the other climbers on Mount Everest. Using seamless construction, both the synthetic top and bottom base layer pieces have at least six knit techniques to create zones that deliver specialized characteristics to promote moisture wicking, mobility and comfort. For example, the fabric has a raised surface in the back to promote wicking moisture, while compression in the shoulders help keep muscles loose and limber.

One piece that the Hanesbrands R&D team did not have to invent for the Mount Everest expedition was the already available *Duofold* Varitherm Mid-Weight Dri-release Wool top and bottom insulating layer. The expedition team will wear a heavier weight of the same product.

Follow the Hanesbrands and *Champion* Mount Everest Expedition

Hanesbrands and its *Champion* and *Duofold* apparel brands are leading the Mount Everest expedition to showcase the company's research and development innovation and to market the brands' activewear and base layer products.

The expedition features two Web sites where people already can follow the progress of the team, including viewing a series of inspirational "Steps to the Summit" video vignettes from Clarke.

Expedition Hanesbrands' ClimbWithUs.com Web site features articles about Everest, Nepal, Sherpas and the gear developed for the expedition team; frequent audio, photo and video expedition updates; and content provided by outdoor adventure freelance writers Stephen Regenold and Stephanie Pearson. Twitter users may follow the expedition at <http://twitter.com/ClimbWithUs>.

A second Web site, *Champion's* "Climb Everest With Us," houses an online community for users to declare their own personal Everest goal and has expedition updates, photos, gear information and *Champion* apparel information. The site is located at <http://www.ClimbEverestWithUs.com>.

About *Champion*

Champion offers a full line of innovative athletic apparel for men and women including sport bras, activewear, team uniforms, sweats and accessories. *Champion* can be purchased at most sporting goods and department stores. For more information about *Champion* for men and women, visit <http://www.championusa.com>.

About *Duofold*

Introduced in 1906, *Duofold* is a leader in base layer apparel for men, women and children. As an outfitter of the National Ski Patrol, Professional Ski Instructors of America and American Association of Snowboard Instructors, *Duofold* is the expert in helping winter athletes and outdoor enthusiasts perform at their best even under the most challenging weather conditions. *Duofold* is best known for its popular Varitherm and Originals cold-weather products. For more information visit <http://www.duofold.com>.

About Hanesbrands

Hanesbrands Inc. is a leading marketer of everyday apparel essentials under some of the world's strongest apparel brands, including *Hanes*, *Champion*, *Playtex*, *Bali*, *JMS/Just My Size*, *barely there* and *Wonderbra*. The company sells T-shirts, bras, panties, men's underwear, children's underwear, socks, hosiery, casualwear and activewear produced in the company's low-cost global supply chain. Hanesbrands has approximately 45,000 employees in more than 25 countries. More information about the company may be found on the Hanesbrands Internet Web site at <http://www.hanesbrands.com>.

Photos/Multimedia Gallery Available: <http://www.businesswire.com/cgi-bin/mmg.cgi?eid=6151461&=en>

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