RISE TO THE CHALLENGE: FREUDENBERG & NAPAPIJRI

Lightweight air-trapping microspheres have allowed outdoor brand Napapijri and its performance materials partner Freudenberg to develop an effective and versatile alternative to natural down.

Great balls of fibre

After four years of research German nonwovens specialist Freudenberg has developed a new thermal insulation material that it says can offer a down replacement product with a higher level of performance than any other down substitute on the market.

Called the Comfortemp fiberball padding, the new material is made from individual, interconnected, balls of fibre. Freudenberg has said that, while padding from small, individual fibre balls has been available for some time now, it has so far not been possible to produce an interconnected padding from individual balls.

Better thermal retention

"This is completely new," the company's head of marketing, Benoît Cugnet, says. He explains that the product's insulation properties are 50% to 80% better than those of conventional paddings, while the thermal retention is comparable with that of real down. "As the padding is comprised of many little fibre balls, many small cushions of air develop in the material," he continues. "This leads to a high degree of breathability and of thermal insulation."

Comfortemp fibreballs can also withstand washing and in mentioning this Benoît Cugnet points to another "big advantage" compared to using loose fibres or down. "There are no cold spots after the garment has been washed or worn," he says, "and there is no need for pockets to keep the padding in place, no need for quilting or all that stitching, and this too means much more freedom in terms of design."



The new Superlight parka from Napapijri, the first garment to use Comfortemp fibreballs for high-performing insulation.

Napapijri

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The insulation properties of Comfortemp are 50% to 80% better than those of conventional paddings, while the thermal retention is comparable with that of real down, the two companies behind the development claim.



The product is washable and allows no cold spots to form following washing or wearing, meaning there is no need to stitch pockets into the quilting in a jacket, for example, to keep the insulation material in place. This gives a high degree of freedom to garment designers.

Freudenberg

Hand-in-hand innovation

Napapijri is the first brand to present a garment that uses the new product and Freudenberg insists that Comfortemp fibreball padding is a joint development between the two companies. General manager for the apparel market segment at Freudenberg's performance materials division, Ulrich Scherbel, says that working on innovative ideas hand in hand with customers is an important part of company strategy and is one of the reasons why Freudenberg is still going strong after 165 years in business, why it has customers in 30 different market segments, more than 40,000 employees and 25 manufacturing sites in 14 countries.

Parka progress

Demonstrating that the Comfortemp idea has already borne fruit, Napapijri presented a new lightweight parka at ISPO 2017. Part of the VF Group, Napapijri had already shown interest in small fibre ball padding. It has used loose fibre balls in its products before and says it had been looking for a solution of this kind to increase the performance of its parkas and winter jackets without adding weight. In fact, the reverse has happened. Head of sourcing for the brand, Bhavesh Naik, says that its use of Comfortemp thermal has saved one kilo in weight compared to similar products the brand has produced using down. Mr Naik says that the new parka, the Superlight, weighs 1.24 kilos in the men's large size. He insists that the parka is made "with the urban consumer in mind" and that lightweight garments are "here to stay". He says people's busy lifestyles, moving from the office to public transport to social settings, mean consumers don't want to be encumbered with heavy garments. He adds, however, that he is confident the Superlight parka would work well in the mountains too.

A high-quality alternative

This comment about flexibility brings emphatic agreement from Freudenberg's Benoît Cugnet. He goes as far as to say Comfortemp is linked to the rise of athleisure. There is interest from a number of performance sports and outdoor brands, he says, but also from "fashion brands that want to add technical functionality" to their products. He thinks Comfortemp fibreballs tick many boxes. He believes the use of natural down in outdoor garments will continue, especially at the high end. "Down is a high-value product," he says, "and at the high end they have traceability; traceability is the key from an animal welfare point of view. There's a lot of pressure on brands and they don't want any negative publicity; that pressure is real and it's growing. At the conventional end of the market there really is a lack of traceability." Freudenberg and Napapijri believe the solution they have developed together provides a high-quality alternative.

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