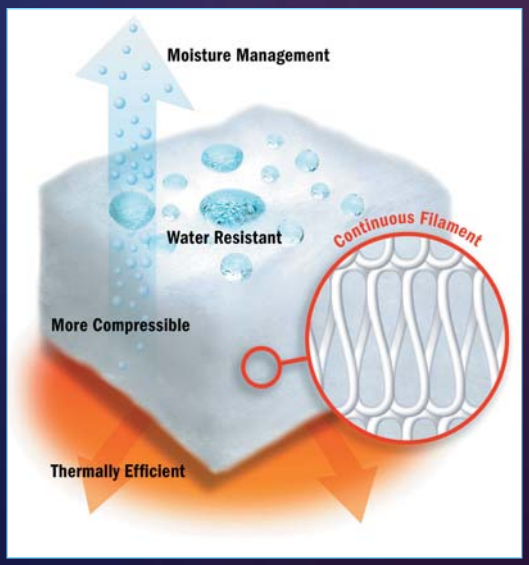


In the bag

Camping and other outdoor activities can be a lot of fun and are a good way to explore new places. However, gathering the right equipment could influence whether the trip is a success or a complete disaster. Choosing the right sleeping bag can be key to ensuring a good night's sleep so that travellers wake up feeling ready for an active day ahead of them. This is why a number of outdoor specialists are continually looking for ways to improve and expand the available options when it comes to sleeping bags.

Earlier this year, PrimaLoft launched a new insulation technology, PrimaLoft Infinity, made from 100% polyester. According to the company, Infinity is a fine denier continuous filament insulation that is designed to give sleeping bags greater loft and shelf appeal. The new product was presented at the Outdoor Retailer Winter Market in January in Salt Lake City, and at ispo Winter Market 09, held in February in Munich.



PrimaLoft Infinity, made from 100% polyester, is designed to give sleeping bags greater loft and shelf appeal.

Primaloft

Thermo°Dry (above) is a three-layer construction, allowing it to offer better insulation without making the sleeping bag heavy.

Advansa

Warmth and compression

"While PrimaLoft Sport has been successfully used in warm-weather sleeping bags, there was a need for a high loft performance product," says Eileen Berner, the brand's North America sales and marketing director. "After years of effort, the research and development team engineered Infinity to fill this market opportunity. Preliminary testing shows that PrimaLoft Infinity has a greater warmth to weight ratio and is more compressible than what is available in the market. It also has a more consistent fibre construction to eliminate

cold spots." Because it uses a fine denier fibre, sleeping bags made using the insulation technology are soft and lightweight.

In terms of cost, Ms Berner claims Infinity is "competitively priced", mainly because it is produced in Asia. While other firms ship raw materials across the Pacific Ocean, PrimaLoft reduces freight costs by manufacturing the product through its Asian source. This also means time-to-market is shorter. In addition, the company claims its factories experience higher yields when cutting and sewing because of the product's superior quality.

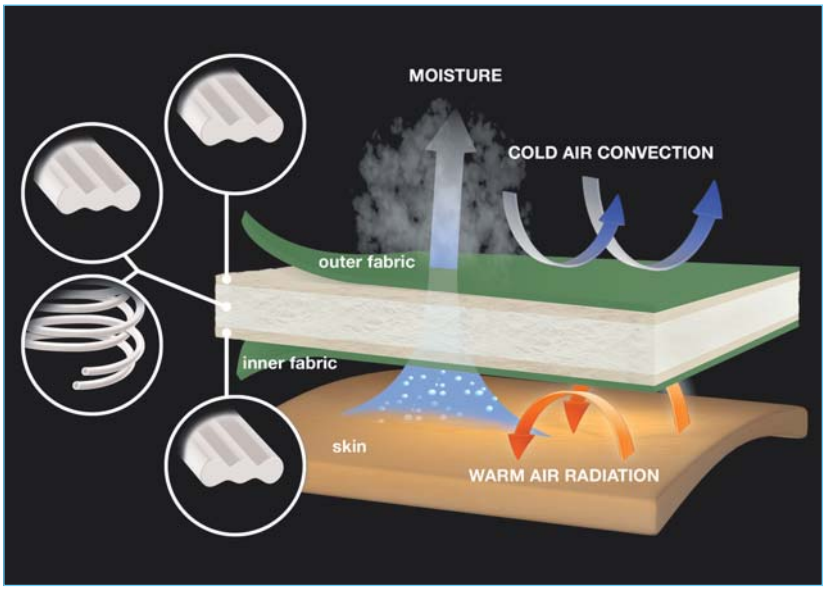
As a result, a number of sleeping bag manufacturers are sampling the new insulation in their lines for launch in spring 2010. Eastern Mountain Sports (EMS) has used it in its Boreal Series line of sleeping bags, including the Boreal 20°. According to EMS, these sleeping bags take up less room in the user's pack, but are able to loft up for a "luxurious" night's sleep. The Boreal 20° is a synthetic three-season (0° to 32°F) bag which also has a 40-denier nylon ripstop shell and features a DWR (durable water repellent) treatment to repel spills and tent condensation.

Multi-layered microclimate

Meanwhile, polyester yarn manufacturer Advansa also presented a new high-end technical insulation product for sleeping bags at ispo Munich. ThermoºDry is designed not only to provide maximum warmth, but also to offer a microclimate that reduces the adverse effects of perspiration and condensation, while enhancing comfort.

A key characteristic of ThermoºDry is its three-layer construction, specially developed by Hong Kong Nonwoven Fabric Ind. Co. Ltd., a prominent player in the global insulations market. The next-to-skin and outer layers are multi-channelled, while the middle layer uses hollow fibres. As a result, the inner layer allows vapour and condensation to exit the sleeping bag so that the user stays dry and comfortable. The hollow fibres in the middle section provide warmth, and the outer layer prevents any cold air getting into the sleeping bag from the outside. The company claims this layered system offers a higher insulation rate without making it heavy.

Apparel marketing manager, Jordi López, explains: "This is the first time we have combined our know-how from moisture management to create a specific mix of fibres inside a product to provide heat and prevent condensation. The whole system is designed with fibres; the shapes and the capillaries we have engineered in mean condensation will not stay." According to Mr López, there has been a lot of interest in the new product.



ThermoºDry offers warmth by creating a microclimate that also reduces the adverse effects of perspiration and condensation.

Advansa

Eco awareness

Furthermore, a more environmentally friendly version of the product is now available. The company has eliminated the use of chemicals and resins during the binding process for its ThermoºDry Eco version. "For standard ThermoºDry, the material that is used is virgin PES," says active sportswear market manager, Gerard Illeras. "For ThermoºDry Eco, we are using different materials such as recycled PES or even using PES in combination with natural fibres such as Tencel."

He adds: "In terms of performance, if we take in consideration 100 grams, with the same three-layer construction on both, the level of performance is very, very similar. The ThermoºDry Eco has a very slight improvement over the standard ThermoºDry (The CLO value for 100g is 2.57 versus 4.49)."

Producing products in an eco-friendly way is clearly of great importance to the company. "Environmental protection is one of the key values guiding the development of new Advansa products. We are happy to offer customers the possibility of making an ecological choice without having to abandon the option of having multi-functional product performance," says marketing manager, Silvia Toledo.

Austria-based Lenzing, which makes Tencel, is also taking environmental concerns seriously in terms of its offering for the outdoor market. It has claimed that using Tencel—which comes from cellulose with wood pulp as its source—and polyester in wadding products can offer better insulation than polyester on its own. It has been trialling wadding combinations of 70% Tencel and 30% polyester for sleeping-bags and outdoor jackets. Product manager Andreas Gürtler explains that the combination offers greater overall comfort because of Tencel's low resistance to water vapour, and high thermal resistance. The fibre allows water

vapour to leave the body without turning into condensation in the insulation layer, while still offering at least as much, and possibly more, thermal insulation as all-polyester wadding. Tencel is derived from eucalyptus wood which comes solely from forests managed according to sustainable principles.

Mr Gürtler says: "This idea offers added comfort, with all the sustainability advantages of Tencel. But because Tencel is lighter, it means manufacturers can reduce the bulkiness of their products and make thinner jackets or sleeping-bags, but with the same level of insulation." The fibre does not contain pesticides or agricultural chemicals and up to 99.5% of the solvent applied in processing it is recovered and does not remain in the fibre.

Added benefits

Furthermore, the company claims that the moisture management of Tencel is unparallelled compared with synthetic fibres. It absorbs moisture extremely quickly and transports moisture away from the body, releasing it into the environment. In contrast, when synthetic fibres are used, skin temperature increases, according to the fibre producer.

Tencel is also a suitable product for people who suffer from sensitive skin and allergies, of whom there is a growing number. An early study undertaken by the company tested the fibre's skin-calming effect on patients who were suffering from conditions such as neurodermatitis and psoriasis. During the study, 90% of the patients tested indicated that Tencel stood out because of its excellent skin compatibility, while 93% indicated that it felt smooth and cool, and 89% said it offered excellent heat regulation.

High-tech sleeping bag fibre developers are looking to cover all bases: to keep wearers warm and dry; to keep weight down without compromising on comfort and to look after the environment in which they will be used. And it seems manufacturers are keen to incorporate these important attributes into their ranges as a way of adding value and in order to ensure that quality and environmental responsibility are maintained.



PrimaLoft Infinity's consistent fibre construction helps to eliminate cold spots.

Primaloft

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