Way back when, before the 'suits' tried to take over the backpacking market, four of us, writes Derryck Draper, took prototype sleeping bags into the Scottish mountains. A successful design meant that you were going to be warm all night; an unsuccessful model, on this occasion, produced a most unusual phenomenon in the form of a veritable polymer-spinning spider's web that hooked onto every projection in the tent and on to several items that didn't necessarily project, and prevented any likelihood of an emergency exit had one been required.

Cover up

It would neither be fair nor equitable to name the filling, but suffice it to say that it was a monofilament, continuous and very new to the sleeping bag manufacturer involved. Justice was done on that occasion, because the production director who had mismatched sewing needles and outer shell fabrics was one of those with a defective bag. The temptation to leave him on the side of a mountain wrapped in his synthetic cocoon was just too much. He caught up with the rest of us four hours later.

It is very unlikely that such unseemly events occur nowadays. The quality police would catch you before you left the site and, in any case, no self-respecting production director would use an outer shell fabric that did not conform to every percolation norm placed on paper.

In the past fifteen years, shell fabrics specified for use with sleeping bags have been dramatically regraded and improved. Neither the finest quality down nor the slickest synthetic filament wriggles its way from its appointed position into the outside world. This short essay reports the thoughts of a selection of fabric suppliers and bag brand holders on the current situation in respect of usage and trends.

Heating up

Fabric and manufacturing developments in this context move but slowly. Anything wrought by flashes of inspiration is correctly regarded with the deepest suspicion and returned to the drawing board at least four times. So, when told of the approval given to a new method of assembling the internal baffling of a sleeping bag without stitching, we were mildly sceptical and suggested that the drawing board treatment should be repeated. But Andy Brun, of Swiss manufacturer Exped, is most enthusiastic about the new technique pioneered and patented by his company.

"It is universally recognised that down fillings are superior in terms of warmth, compressibility and longevity," he said, "But down's lack of performance when damp is the one objection heard every day among retailers. That was the problem we decided to overcome."

Exped uses Pertex branded fabrics manufactured by Perseverance Mills in the UK. The Pertex Endurance range is a standard for outer shell fabrics and it was a waterproof/ breathable version of this that the Swiss company chose. Quite simply, Exped weld the tricot baffles to the outer fabric instead stitching them into place. All the seams of the bag are then hot air taped to ensure that there is no ingress for water. Andy Brun assures that the product has seen substantial expedition use - without tents - in the Himalayas, Patagonia and Greenland. Wet grass, boggy riverbanks and snowmelt in caves are not a problem. "If it's raining heavily just pull your waterproof jacket over your head," said Brun.



Photo: Ferrino

Heat is also being treated in a slightly different manner by another company, in this case to laminate synthetic fillings to the outer shells and thus avoid both stitch lines and fill migration. The research into the technique is at a very early stage, and may not prove to be viable in the long run - but it does show that new ideas are forthcoming. The name of the manufacturer has been withheld at its request.

Loft and leaving

Another Swiss company, Mammut, has recently purchased Norwegian bag manufacturer Ajungilak and entered on to a very steep learning curve. Fortunately, it also retained the services of Snorre Moen, Ajungilak's development manager in Lillehammer, and he was able to give several pointers to a future direction. When the Norwegians moved production to China some while ago, it was anticipated that it would be easy to source shell fabrics of a suitable quality in the region. This did not prove to be the case. Moen said that all the samples under test required a coating to make them proof against percolation, but coating made them too stiff to be viable.

So now he, in conjunction with Mick Farnworth at Mammut in Zurich, is continuing to source all the shell fabrics in Europe to ensure that the prime requirements of breathability and fill-proofing are held to the best standards. Moen also said that few

sleeping bag manufacturers fully appreciated the necessity for high breathability as a factor of loft retention in the fillings. As an example he quoted experience in using Ajungilak's Micro-Lite Tex Shelter fabric, which is a coated micro-ripstop, in bags carried by expeditions to Polar Regions. Although coated and with a high hydrostatic head, there was more than sufficient breathability to ensure that the bags did not ice up nor lose their lofting ability for the duration of the expeditions.

Ubiquitous company

Pertex textiles always enter into any conversation concerning shell fabrics for sleeping bags and clothing. Originally based on the weaving technology used in the production of now virtually-obsolete typewriter ribbons, the products from Perseverance Mills have annexed a major slice of the available market. Steve Laycock, development manager for the company, was justifiably enthusiastic about a new product in the Pertex range, an ultra-light and downproof shell fabric weighing less than 1 ounce per square yard (33.9 gsm). The lightest product to date rates at 1.6 ounces per square yard (54.23 gsm). Full details are yet to be released by Perseverance Mills.

Brett Harris's Snugpak brand, based in the UK, has been a devotee of Pertex fabrics since 'Day One' and only uses products from other sources where there is a gap in the range. An example is its TS1 sueded polyester, a double-faced textile which features a combination of micro and macro fibres to ensure that moisture vapour always moves from the inside towards the outside of the bag. The nap of the macro fibres is also raised to produce the pile effect similar to suede leather.

This company is about to launch a series of new products using a new outer fabric called Infin8t. Heavier than others in use, Snugpak and Perseverance Mills have developed this jointly. The full properties and specification details were made available during the autumn show season.



Photo: Fairydown

Colorado-based GoLite launched its super-light range of backpacking products two years ago and made an immediate impact. Its aptly named Sleep System has been modified for the 2002 season with the addition of a Variable Temperature Rating unit that offers a sleeping bag and an extra, separate top. This last zips to the basic bag to add an extra 20°F (7°C) to the minimum comfort rating, which we take to mean an extra season in possible use. The bag shells are in a standard Pertex ripstop fabric; the extra top covers feature Pertex again, but finished with GoLite's own branded GoDri waterproof/ breathable coating. GoLite has recently announced an exclusive link with Perserverance Mills to use the company's Equilibrium fabric.

Terra Nova, an innovative British brand usually associated with accessories or mountain tents, changed hands in the second half of 2000 and a range of sleeping bags has been the first outward sign of developments announced since the take-over. Shell fabrics hold no surprises, comprising ripstop nylon 6.6 for the outer and plain weave nylon for the inner. Some of the higher-rated down filled bags feature a DWR coating as standard. Terra Nova has a reputation for walking with soft footsteps until it has found the right path. An educated guess suggests that future sleeping bag development for this brand could be radical.