Lighten up



Over twenty years ago, writing in a British consumer magazine, the Scottish writer and broadcaster, Cameron McNiesh, gave vent to his fears and frustrations on the subject of over-specification in outdoor apparel. I have often referred to the same subject in the pages of World Sports Activewear, if only to reinforce Cameron's words and to enter a further plea for a modicum of common sense in the setting of garment specifications.

Until very recently the twenty-year-plus mind-set of the apparel manufacturing sector has been 'to make it bombproof', and 'a real man wears a man's outdoor jacket'. As a consequence shell garments have become thicker, heavier, and loaded with bells and whistles in the form of performance liners, membranes, and gender-busting outer fabrics.

'Gender-busting' of course because as the garments became weightier and more 'manly', the distaff side of the market became justifiably annoyed with a 'one spec fits all' attitude and raised dissent. The outcome was the hitherto unprecedented interest in designing and producing women-specific clothing ranges and the corresponding increase in market size as more and more women came to outdoor pursuits, safe in the knowledge that they would not have to emulate Mr Bibendum in the old Michelin tyre advertisements.

Softly, softly

At long last, however, a measure of sanity is returning to both the apparel and equipment sectors in outdoor activities as they relate to both genders. In year 2000 a new brand name appeared, linked to a fresh approach in clothing and equipment – GoLite. Based on the practices of mountaineer and trekker Ray Jardine, a lifelong advocate of the 'light is right' regime, the company offered to remove over 9 kilos from every backpack and still supply full comfort and protection in the outdoors.

How does it do so? Simply by using the lightest performance fabrics and insulations available, encouraging research into others and developing Jardine's philosophies into commercial fact.

GoLite has been enormously successful. So much so that many other established companies are now working to similar parameters and fabric producers have accelerated development programmes to produce ultra-lightweight textiles in double-quick time.

This is a game where there are several possible leaders because the definitions of soft shell are blurred and, so far, capable of concept transfer from polyester fleece to synthetic weave without loss of credibility. Indeed a major proponent, Nextec Applications of Vista, California, has suggested that 'the soft shell category is a nebulous, always moving class of jackets defined more by what they aren't (waterproof) than what they are (breathable, highly water resistant, lightweight and packable.' What Nextec has not been able to do, and neither has any other company, is to provide a set of measurements to quantify that 'what they are' performance.



The Arc'teryx Gamma MS jacket. Soft shell performance in Polartec Power Shield.

A different premise

Begging the lack of measurements, one leading international manufacturer says that the real opportunity for consumers is the availability of "the ultimate in breathability". The rationale is that the user wearing the garment will feel warmer and drier because soft shell fabrics offer a major improvement in MVT (moisture vapour transfer) rates from inside to outside, over the existing technology that repels external moisture and attempts to deal with internally generated moisture at the same time. Waterproof, breathable fabrics have their well documented measurements, but they have no means of indicating their performance factors in relationship to the moisture output from a variety of users. It is strongly suggested that soft shell technology provides the physical answers without falling into the measurement traps set by the manufacturers of the 'bombproof' fabrics.



To the inevitable question, "What about the deluges?" - the answer might be that the sensible outdoor activist makes for appropriate shelter if in the open or waits until the rain or snow blows over before venturing out in the first place. In the rare event of a total soaking, then the ability of modern synthetics to move water away from the fibres will ensure a dry back before very long.

Fabric developments

Taking the hint then, one has to agree with Nextec when it suggests that its encapsulated process Epic fabrics hit the soft shell target. Windproof, water repellent and breathable, they are also

Venture jacket - The North Face.

light in weight, fast drying and capable of being compressed into the corner of a rucksack without loss of subsequent performance.

Very recently the Pertex brand, owned by UK-based Perseverance Mills, has launched its Quantum fabric – at 30 gsm (grammes per square metre) the lightest performance fabric the company has ever produced. Pertex Quantum is aimed at mountaineering and alpine applications and the Who's Who listing of selected customers is, to say the least, impressive. Marmot, Western Mountaineering and GoLite from the USA; Rab Carrington, Snugpak, Berghaus, KIMM and Montane in Great Britain; Exped, Valandre, Haglofs, Salewa and Joutsen from mainland Europe and Scandinavia. All are companies noted for their adherence to high standards in performance and as such unlikely to endorse any fabrics unless they meet with total approval.



Vector thermal jacket - The North Face.

Soft shell lends itself admirably to the science of nanotechnology as executed by the Nano-Tex Division of Burlington Worldwide, operating from its new base in Hong Kong. In fact BWW has any number of suitable fabrics in its portfolio in which Nano-Tex plays but a part – providing one can adjust one's thinking to 'performance' rather than 'measurement'. The Versatech collection, for example, is a range of lightweight, densely woven microfibre fabrics incorporating Nano-Pel water resistance and offering good MVT. Burlington suggests that the fabrics confer the optimum balance of performance for high aerobic activities. In fact just where soft shell scores highest.

Conceptual Education

The soft shell concept is still seeking awareness with the mass of consumers, although the front runners (in both senses of the phrase) are already making informed choices. Fabric manufacturers and clothing brands are conducting an educational campaign, focusing on the consumer benefits rather than quantifying performance. The technologists are improving the chemistry and finishes, and the field test teams are refining just which layers are required to maximise the efficiency of the total package.

However, one should not even consider the possibility that a waterproof shell has gone forever. First, there will always be a place for the one-for-all jacket when indulging in country pursuits, dog walking, event marshalling and similar activities. Soft shell users will still have a requirement for a waterproof and breathable jacket, but only when they are caught in a downpour or when it snows. It will be very light and minimalist in specification; the chances are that it will only get around 20% of the use given to a hard shell. The remaining 80% of the user's needs can be met by soft shell systems.

Undoubtedly W L Gore's Paclite product was developed with soft shell requirements in mind. In its latest, third generation, format - and minus dots - it will be found in GoLite's 2003 range supplementing that company's new N-Lite-N soft shell line. This product series also uses the lightest of Swiss-based Schoeller's 3Xdry Extreme fabrics, suggesting a guaranteed water repellency and MVT performance.

Malden Mills Polartec Power Shield fabrics – even though they are three-layer laminates – are the choice for a number of brand owners including The North Face and Arc'teryx. The former opted for a high loft inner face, the latter – in its Gamma MX jacket – went for more stretch and less insulation. Power Shield is a family of fabrics to a common design – nylon face, a wind blocking membrane, and brushed inner insulation layer. Variable stretch is a common element and can be specified by the apparel manufacturers.

Weight watchers

The balance of Cameron McNeish's original discussion covered the possibilities in fabric development and garment design way beyond what was available in the 1970s. Other means had to be found to bring down the weight of equipment carried by adventurers of all types. Ten years before that magazine was published I had been persuading young men to cut the handle of a toothbrush by half and to dispense with toilet soap and its relevant container as a means of saving weight. For all the effort involved in those and other actions, they did manage to lower their pack weight by an average of two pounds – on a 45 pounds all-up weight.

In the 21st century, with the clarity of thought now governing apparel design and production, those young men would not need to worry.

Derryck Draper



Berghaus Glen-InfinityLight like pullover.