Sporting the stretch: can smaller players compete?

By Joy Tibbs

Working out can be tough enough without having to worry about what you are wearing. And stretching after a busy session in the gym or on the track can be no fun at all if your fitness gear refuses to stretch with you.

This is why textile companies across the globe are constantly working on solutions to improve the stretchability of fabrics, so that they offer the athlete better elongation and shape-recovery for the lifetime of the garment. Elastane fibres such as Dow XLA and Lycra are widely used in sportswear items to give the wearer better fit and flexibility, among other things.

However, stretch finishing is a less explored arena. Netherlands-based textile firm Tanatex Chemicals has been developing various solutions for fabrics, including underwear, bed linen and activewear. It has recently been exploring ways of creating stretch finishes and, after a year-long project, came up with Easy Stretch and Easy Stretch Upgrade, which it claims can significantly improve fabric elongation in sporting apparel.

The two products are concept finishes that can be applied to both knits and fabrics and are more or less fibre-independent. Easy Stretch came about during experiments involving various combinations of existing Tanatex products. The most successful was a mix of Persoftal Nano SIL and Persoftal Ultra on PA/elastane fabrics, which, according to Tanatex's tests, improved fabric elongation by as much as 20% compared with the same fabrics in an untreated state. "The two products had a significant impact on the fabrics, particularly when combined," says the company's global project manager for finishing, Johan Cleyman.

Mr Cleyman firmly believes these finishing products can improve the stretchiness of any fabric that already contains some element of flexibility. "You cannot use Easy Stretch to improve any fabric without any 3D movement," he explains. "Fabric with initial 3D movement of between one centimetre and 15 centimetres can gain 20% extra elongation with Easy Stretch, but you need a little flexibility to begin with or it won't work."

After initial tests, which involved hanging weights from the fabrics and measuring the amount of stretch achieved, the company employed a tensile testing process using computerised technology. It found that when a weight of 0.5 kg was used to stretch the treated fabrics, elongation was "really impressive". According to Mr Cleyman, the single solution, Easy Stretch, improved elongation by up to 12 centimetres, while the combined solution, Easy Stretch Updates, increased stretch by as much as 16 centimetres. This would inevitably help to promote comfort and flexibility for "all types of swim, sport and activewear", he said.

However, these finishes present a couple of inherent disadvantages when compared with other existing stretch fabrics, as the graph shows. The first is that garment recovery is not 100%, so the item does not completely return to its original state after it has been stretched. "We are not presenting it as a full recovery product due to the mechanical aspect of textiles," comments Mr Cleyman, who attributes this failing to the complexity of the textile compacting process. Despite this, he explains that "recovery is the same, even when elongation is greater" and that Tanatex is currently in talks with Swiss textile machinery manufacturer Santex to come up with a solution to the problem. But whether the company will take the time to make the necessary changes—approximately a year—and pay for the expensive machinery needed to implement these changes depends on "the interest of the market" as far as Mr Cleyman is concerned.



Lycra SpaFX is enhanced with aromatherapy microcapsules and is proving particularly popular for yoga apparel.

Lycra/Invista

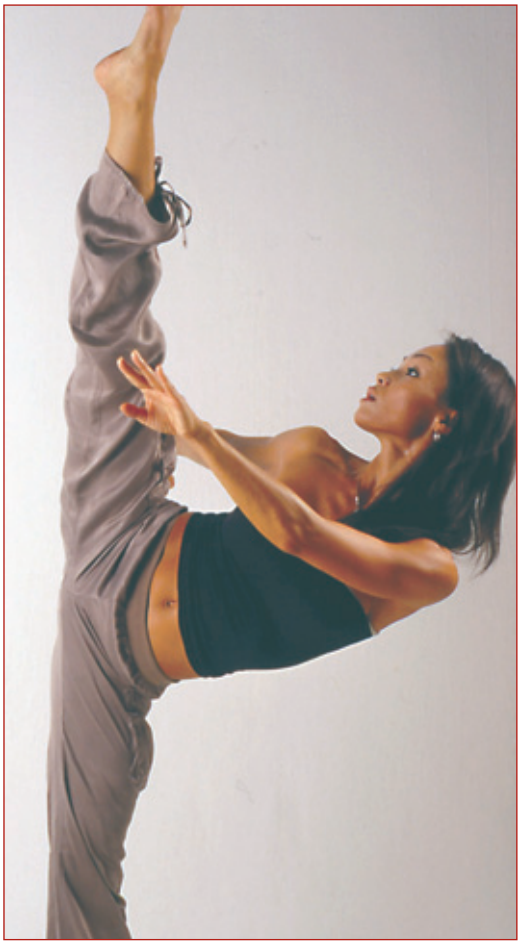
The second, and perhaps most significant downfall, is the lack of permanence achieved using the Easy Stretch finishes. Although Mr Cleyman points out that the "positive effects" of the finish last for up to 20 washes, it is clear that active types who like to work out or go for a swim several times a week will not feel the benefit for very long. Compared with Lycra, for example, which does not wash out and can keep its strength for 200 washes, the finish is relatively short lived.

Nevertheless, Mr Cleyman points out that using this kind of finishing product is a reasonably cheap way of increasing a fabric's flexibility. "Easy Stretch costs around 20 cents per linear metre, so for swimwear it costs next to nothing," he says. "You would pay much more for higher Lycra content." He says that since the finish was launched at Munich-based textile and textile machinery trade show ITMA in September last year, the company has experienced "good sales growth". And he claims it has also attracted the attention of firms that already excel in the field of stretch. "We talked with Invista and they were very interested in the concept. It [Easy Stretch] could be seen as competition, but in my opinion this is not the case," he says.

However, while the Easy Stretch finishes are reliant on fabrics that already contain some stretch, fabrics containing Invista's Lycra appear to be a more convincing answer to the stretch problem. This is because, although stretch in itself is extremely important to Invista, it does not achieve enough on its own to make a garment adequate overall, whether for use in sport or in every day wear.

Marketing segment director for activewear/outdoor, Julien Born stresses the importance of other attributes including recovery, an area where Easy Stretch struggles. He explains that Lycra fibres give apparel more than just elongation: "While stretch is indeed one of its properties, the true benefits of Lycra brand fibres to garments are derived from a combination of many other technical components related for instance to recovery power and stress/strain curves," he says. "Stretch in itself can come from knitting technologies, chemical treatments or other means, but recovery is what gives garments their true comfort."

Although sportswear is more or less useless if it does not stretch with the sportsperson, the key in Invista's eyes is to achieve an overall balance of beneficial traits. "Appropriate levels of stretch and recovery are absolutely vital in sportswear," explains Mr Born, "stretch alone is, however, not enough." He points out that Lycra garments can also offer the wearer support and protection while they work out. The "fibres can offer close-to-the-body garments that can help with reducing muscle fatigue and improving dynamic movement" as well as providing "improved flexibility and comfort to a wearer whatever their level of training or standard".



Tanatex believes its Easy Stretch finishing solution can offer an affordable way to enhance stretch in clothing that already has some degree of flexibility.

Tanatex

And, rather than simply offering generic benefits, Lycra wear can offer different qualities and characteristics depending on the end-use application. Examples include Xtra Life—a chlorine-resistant form for performance and leisure swimmers—and SpaFX, which contains fragranced microcapsules that are released during activities and is particularly suitable for yoga apparel. "Our products are designed with specific needs in mind, to ensure they deliver against the different needs of each application," says Mr Born. Another area he draws attention to is the expansion of Black Lycra for the soft fitness market, which helps to avoid discolouring in items such as leggings and shorts.

The two companies clearly agree on the importance of stretch for the sportsperson and both envisage significant growth within this field as more people become interested in and involved in sport. According to Mr Born the industry growth average of the active sportswear sector is 5%, which "looks as though it will continue for the next five years". And stretch is also integral to the sports lifestyle industry, which is expanding rapidly as the boundaries between sport, fashion and recreation increasingly overlap. "Over recent years we have seen the

demand for garments with stretch and recovery increase as people have recognised the benefits of Lycra fibre in the sporting arena and begin to expect similar levels of performance in their everyday clothing, especially in sports leisure wear," he says.

Invista has particularly noticed increased demand from emerging markets such as China and Russia, and it may be that Tanatex will also experience a surge in demand from these countries. Invista was unable to confirm that a collaboration with Tanatex was on the cards, it did not rule out partnering a stretch finish company in the future. "Invista is constantly researching different fabric technologies and our R&D team is currently working on a number of different projects aimed at bringing further value to the trade and consumers in terms of garment comfort and performance," confirms Mr Born.

So Easy Stretch will always rely heavily on the presence of stretch fibres in the garments it is used for, and certainly does not offer the same versatility as the numerous Lycra-enhanced fabrics currently on the market. However, perhaps with a few tweaks here and there, Easy Stretch will eventually be seen on the podiums at major sporting events. With a growing activewear market clamouring for products that improve stretchability and comfort, the company's already healthy sales look set to climb providing buyers are aware that the finishes are not designed to be a substitute for elastane fibres.

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