With the Olympic Games looming large on this year's sporting calendar together with the spectre of officialdom standing for hours in the Sydney sun, consumers of the world will once again be forced to think about the problems of excessive exposure to UV rays. Certainly the last few years have seen the textile and chemical industries paying more attention to this aspect of life- and leisure-style.
Now it appears that trends in fashion have helped speed up research into reducing the harmful effects of UV.

Mad dogs and Englishmen

There was a time when, according to Noel Coward, only mad dogs and Englishmen went out in the midday sun. Today, if the development of the suntan cream and blocking industry is any measure, the world and his wife appear to be happy to do the same thing and those who live in permanent sunshine find that modern life makes the afternoon siesta virtually a luxury of the past. Global business makes demands on time at any time and is no respecter of time zones, borders and traditions.

The market for UV-protective clothing is unlikely to be found among the millions of northern Europeans migrating to the hot spots of the Mediterranean. Their whole raison d'etre appears to be getting as much skin exposed as possible with lip service being paid to the use of the right skin cream. Many consumers remain confused by the UPF number given to the sunscreen or, indeed, the length of time it remains effective after swimming or the effects of lying on sand, sitting at the water's edge,etc.

The real market must surely lie among the millions who live and play in the sun. In the USA there are some 25 million regular golf players and with Florida, the sunshine state of America, boasting some 1,000 golf courses alone, that market should be an attraction. Tennis, too, immediately springs to mind as another game which demands protection against hours of exposure.

Two trends in fashion have been found to help provide an acceptable solution: the development of microfibres and the desire to match a cotton look using polyamide or polyester.

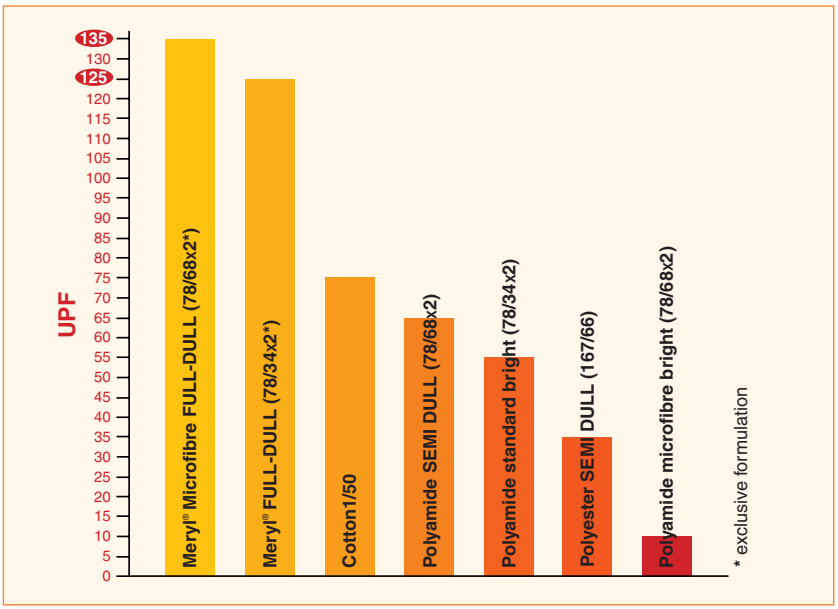
Nylstar's Meryl Anti UV microfibre is a perfect example. The full dull fibre, used properly, offers excellent protection against both UVA and UVB rays with a protection level some fifty percent greater than cotton, and far better than polyamide semi dull or bright and more than 300% better than polyester semi dull.

Of course, it comes back to the weight of the fabric but even here the same performance curve is to be found. At equal fabric thickness, Meryl offers almost four times the protection of polyester and with a thickness almost 30% less than cotton, it offers twice the protection of the natural fibre. With its considerable moisture absorption capacity and lightness, the fabric is well suited to both golf and tennis.

Specialist US company Kokatat, based in California, has also been thinking about UV protection in its paddle wear collection and has produced its Sun Conscious UPF 30+ paddling shirt. Using 2-ply Supplex, the lightweight, quick-drying shirt offers protection against wind, sun and, with its tight weave, insects too.

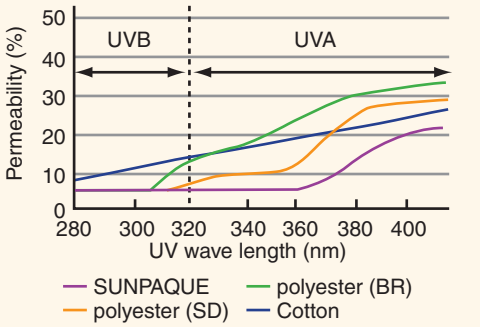
The Solar Protective Factory in California first began testing its fabrics for UV protection qualities in 1989 and now claims that virtually any fabric can be treated to improve its UV blocking qualities. It is claimed that all SPF fabrics, which utilise Ciba's protector treatment, block a minimum of 97% of UV rays, qualifying them to use the US rating of SPF 30+. The application binds to the fibre and does not wash out after 40 home launderings, remaining durable and breathable.

Tested at Institut Textile de France in accordance with AS/NZ 4399:1996 directive, using Labsphere UV 1000F.



While protection is the key, there is a realisation that it remains chic and fashionable to have a tan. Interlad b.v. in Holland has its SunSelect Tan-Through cotton/microfibre textile which it is claimed offers medical, cosmetic and safety advantages that no other on the market can equal.

The medical advantage of the textile is said to be in the protection against DNA damage to the skin cell structure. The cosmetic advantage is self-evident: non-applied sun protection (no creams, oils or lotions) combined with a safer way to get a tan - burning and blisters are totally eliminated with SunSelect textiles. The fabrics selectively control what UV wavelengths pass through the textile to the skin. Being selective cuts down on burning UVB rays allowing a sufficient amount of UVA through for a tan. The company has now produced its third generation of tan-through swimwear fabrics. It first began work on its non-applied suntan products some 15 years ago, originally working on parasol fabrics. From parasols it progressed to clothing fabrics, including swimwear fabrics using Lycra for elasticity, and in the last few seasons it has perfected a cotton/microfibre range.



UV Blocking Property of Tomen's Sunpaque.

Another major producer targeting the market has been the Japanese Tomen Corporation, a $50 billion company founded in 1920. Its two sun protection fabrics are Aquamiracle, a quick-drying lightweight material consisting of a face



Sunselect Tan-Through cotton/microfibre textile garments.

side using its Sunpaque fibre which contains a high-density titanium core that blocks UV rays and a back surface using its Technofine yarn for moisture transfer. The titanium core also makes the fabric opaque, as transparency has been a frequent problem with conventional polyester materials used in swimwear. The fabrics have been tested at Germany's Hohenstein Institute which has given the fabrics a SPF of 20, 40 and 80 depending on construction.

Besides health considerations, UV rays also affect the lightfastness of the fabrics. LJ Specialities based in Chesterfield, England, claims that its finishes protect both the wearer and the fabric. Its UVT-50A finishing agent cuts 50-90% of ultraviolet in the critical 400-200mm wavelength; the main ingredient is a cosmetic grade chemical preventing toxicity or irritation problems without affecting the hand of the material. It is suitable for both natural and synthetic fibres.

Meanwhile, research continues and one can expect to see more emphasis being placed on the ability of individual colours in helping to reduce UV transmission. By the time the 2004 Olympics arrive, perhaps all officials will be wearing the same uniform, not as a matter of style, but more as a matter of common sense.

David Buirski



Left: Destination Paddle Wear by Kokatat.