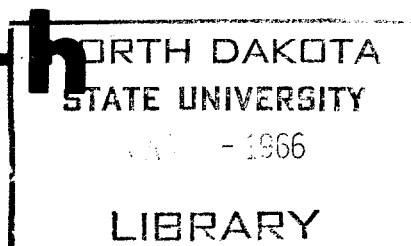


Stretch Fabrics



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Stretch fabrics which have made major advances in the textile industry are not entirely new to the consumer. We have had stretch garments in the form of knitted fabrics which have provided "give" which made for comfort to the wearer. These have been used extensively in the past and are on the increase in the garment market today. Lack of wrinkling and other features with which the consumer is familiar has made knits desirable in wearing apparel.

The new stretch materials are one of the most revolutionary fabric concepts of our times. These differ from knits in that the stretch is either accomplished by yarns or by chemical treatment of the finished fabric.

There are two methods of yarn treatment - one termed texturized yarns, which can be accomplished in a number of different ways and the other by the use of core yarns made of an elastic fiber family named spandex.

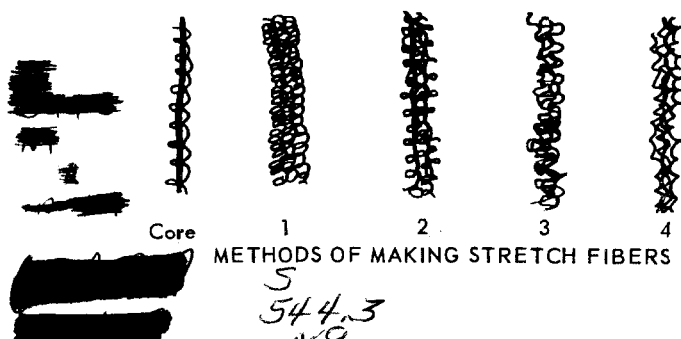
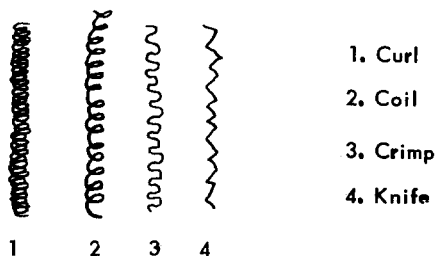
Texturized yarns are usually made of nylon filament yarns although other thermoplastic fibers such as Dacron could be used. The first such stretch yarns were made by a European company. The yarn was twisted, heat set and untwisted, achieving a yarn that would perform like a coiled spring. This yarn was called Helanca. Since then we have had others.

The false twisting method is achieved by a process which is like rubbing two yarns together between the palms of your hands - the ends of the yarns being in a fixed position, and passing these yarns through a heated area to set the twist. This method is quicker and less expensive. The twisting, heat setting and untwisting are all done in one operation. This yarn is not quite as elastic as the first method which produces Helanca. Yarns made by this second method are Agilon, Flufilon, Superloft and Saaba to name a few, there are many others.

A third method employs heated filaments drawn over a sharp edge. This deforms one side, causing crimping. No heat setting is necessary because the fiber has already been softened before being deformed. Agilon can also be made by this method.

In a fourth method yarns are stuffed into a box called a stuffer box which crimps the yarn. It is heat set in this position. The yarn acquires bulk, but does not have as much stretch as the other processes. Ban-Lon is made by this process. These yarns have a certain degree of stretch. They are more moisture absorbent because water forms between the twists or coils of the filaments, making the body feel cooler. They are lighter in weight. These methods all increase the cost of the fabrics made from these yarns. Today coiled cotton yarns for stretch fabrics and garments have been produced by

Curling, Coiling, Knifing and Crimping Processes



treating highly twisted plied yarns with a particular type of resin and heat setting the yarn and retwisting them in the opposite direction. It is claimed that these yarns will stay permanently coiled. They are not on the market at present, but we can look forward to their production sometime in the future.

Stretch Cottons

Mechanical stretch fabrics are produced by a slack mercerization process, usually of cotton, but could be made of cotton blended with a man-made fiber. This process involves the shrinking of the fabric in a solution of caustic soda such as is used in the mercerization process. The process is more permanent if particular type resins, termed cross-linked resins, are used in the finishing of the fabrics. Stretch limits in these fabrics are usually from 12 to 15 percent. It is used on light weight materials. There is relatively poor recovery from the stretch of the fabric.

Core Yarns

A true stretch woven fabric is made from a superior elastic yarn, usually a spandex as its core. This is made by wrapping the spandex core with a yarn which could be made of a variety of fibers. Foundation garments are made of this yarn. One company uses 65 per cent of Dacron and 35 per cent cotton to spin around the core yarn of spandex to produce batistes, poplins, broadcloths and super water repellent fabrics with stretch limits to 50 per cent and full recovery. The yarn is used in the filling, from selvage to selvage. The stretch recovery of fabrics is usually built in for specific end uses. Some fabrics, depending on use, require more

stretch than others, and we should not demand the same stretch and recovery in the various garments or household textiles where we find such yarns advantageous.

Using Stretch

While stretch provides for better fit for many items from infants garments to slip covers for the upholstered furniture, no industry standards have been set for these fabrics, especially as regards comfort in clothing.

However, the trade has agreed in general that the stretch in the filling direction which is width wise should be about 20 per cent and the lengthwise or warp direction about 50 per cent. There is another factor which has been a problem in stretch fabrics. This factor has been termed growth or the wrinkled or baggy appearance which results from the fabric being stretched and released and not returning to its original size. When fabrics become stretched the use of one of the following treatments may help the garment to return to shape: (1) Let the garment rest 24 hours in between wearings. (2) Tumble in a dryer without heat. (3) Press with a steam iron.

Care of Stretch Fabrics

Care of the garments made of stretch fabrics is very important. The discriminating homemaker will carefully read the hang tags that are attached and follow directions for washing or cleaning. Different fabrics have different degrees of washability, depending upon fabric construction, dyes, linings and other trimmings or findings which are a part of the whole garment. Read your hang tags carefully. The care you give the garments and the results you obtain may be the difference between a satisfactory and unsatisfactory article.

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