

## WEAVING PATTERNS

A fabric that is used for clothing must be flexible enough to fit and drape on the human body. Although they are ancient methods, weaving and knitting continue to be the fabric construction methods that best provide these characteristics for apparel fabrics. However, modern technology has provided many loom modifications and variations in knitting machines to give consumers a wide variety of choices in woven and knit fabrics. Manufacture of the fabrics known as "non-wovens" has increased during the past decade and is predicted to become a more important type of apparel fabric in the future.

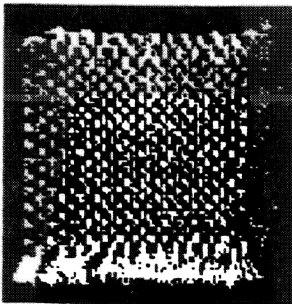
### WOVENS

Most fabrics are woven on looms designed to make very plain fabrics. These looms can be modified by adding special attachments that produce more intricate weaves.

#### Plain Weave Variations

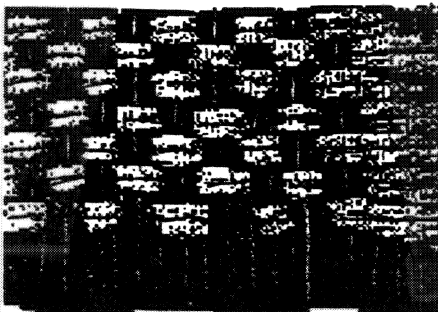
A variety of appearances can be achieved in plain-weave fabrics without using special loom attachments. Using fine yarns produces sheer fabrics such as organdy, voile, and batiste. Using a slub yarn in the filling direction creates shantung. If some warp yarns are held at a tighter tension than others, the result is seersucker. A plain-weave fabric made with yarns that have high amounts of twist will produce crepe fabrics.

Modifications of the plain weave are:



#### Rib Weave

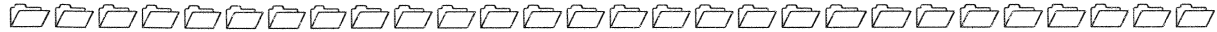
Yarns in one direction appear to be heavier, bulkier, or thicker than in the other direction. Examples of rib-weave fabrics are dimity, poplin, faille, and grosgrain.



#### Basket Weave

Two or more warp yarns are interlaced as a unit with one or more filling yarns. This weave produces a fabric that is both less firm and weaker than the regular plain weave or the rib weave. Oxford cloth, monk's cloth, and hopsacking are examples of basket-weave variations. Wool basket-weave fabrics are used as suit and coat fabrics.

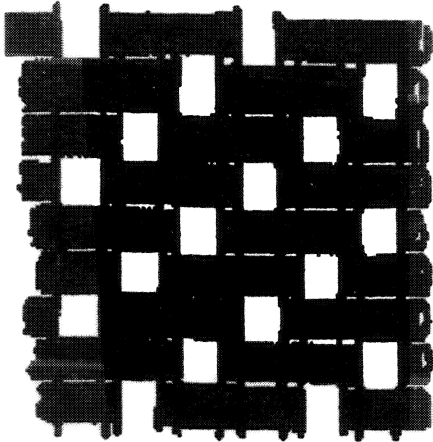
Basket-weave fabrics are flexible and more resistant to wrinkles because of their loose, open weave. However, some garments made from these fabrics may snag easily, pill readily, and stretch at points of body strain.



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### Twill Weave

A twill weave can be identified by diagonal ridges on the face of the fabric. Frequently these diagonals are also visible on the back of the fabric. The ridges may have a steep, regular, or reclining degree of slope. Steep twill weaves (75 degree angle) are strong fabrics because the warp thread count (threads per inch) is high.

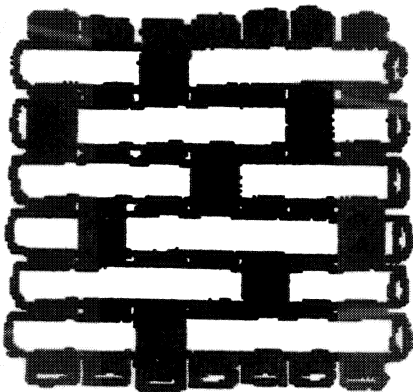


In general, twill weave fabrics are heavier and sturdier than plain weaves. However, care must be taken to avoid flattening the diagonal ridges when pressing or ironing these fabrics. Also, the twill weave ridges may flatten and become shiny because of pressure and rubbing during wear. Twill weaves do not show soil as readily as do smooth surfaced fabrics. The quality of a twill fabric varies with fiber content, yarn construction, and the thread count of the fabric.

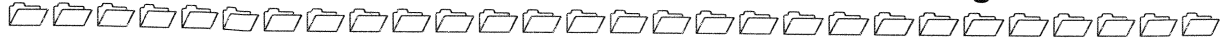
There are many interesting variations of twill fabrics. Some common twill weave fabrics are denim, herringbone, gabardine, serge, and wool broadcloth.

### Satin Weave

Fabrics made with the satin weave are characterized by yarns that float (pass over) across several yarns placed in the opposite or perpendicular position. If the warp yarns float over the filling yarns, the result is satin fabric. The combination of long floats of filament yarns and low-twist yarns creates the shiny surface of satin. If the filling yarns are placed to float over the warp yarns, sateen fabrics are created. Because sateen fabrics tend to be chosen for characteristics other than sheen, staple-length fiber yarns (usually cotton) are used instead of filament fiber yarns.



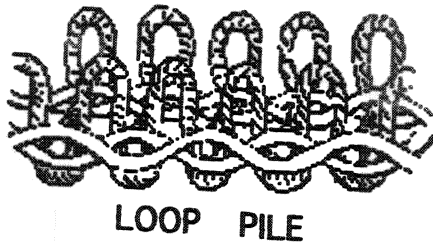
In general, satin-weave fabrics are not considered durable fabrics. The yarn floats on the surface of the fabrics tend to snag easily. The lustrous, smooth appearance is the major reason people select satin fabrics. Special care in dry cleaning and laundering are required. Examples of satin-weave fabrics include slipper satin, crepe-back satin, antique satin, bridal satin, and sateen.



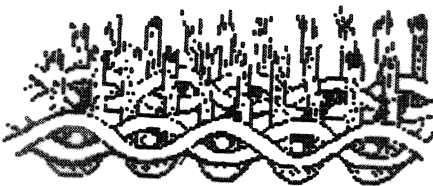
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**Pile Weave**

Pile fabrics, such as velveteen, velvet, and corduroy, are woven with three sets of yarns. The extra warp yarns are cut as they pass over a filling yarn to produce the pile surface. If the third set of yarns is left as uncut loops, terry cloth or bath toweling is created. The back or base of a pile fabric may be a plain, twill, or satin weave. Durability of the fabric depends on the base weave construction. For example, a twill weave back provides greater durability than a plain weave back. A dense pile surface produces a pile fabric with greater crush resistance. A less dense pile fabric will flatten when worn and will reflect light differently—parts of the garment will look lighter in color. To eliminate this problem, a crush-resistant finish can be applied.



**LOOP PILE**



**CUT PILE**

Corduroy and terry cloth are usually made from cotton or a blend of cotton and polyester. Velveteen is construction from fine cotton yarns. Velvets are woven of yarns made of acetate, rayon, nylon, or silk.

Source: Cooperative Extension Service, University of Illinois at Urbana-Champaign, College of Agriculture

