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Sewing Fashion Fabrics

Michigan State University

Cooperative Extension Service

Home and Family Series

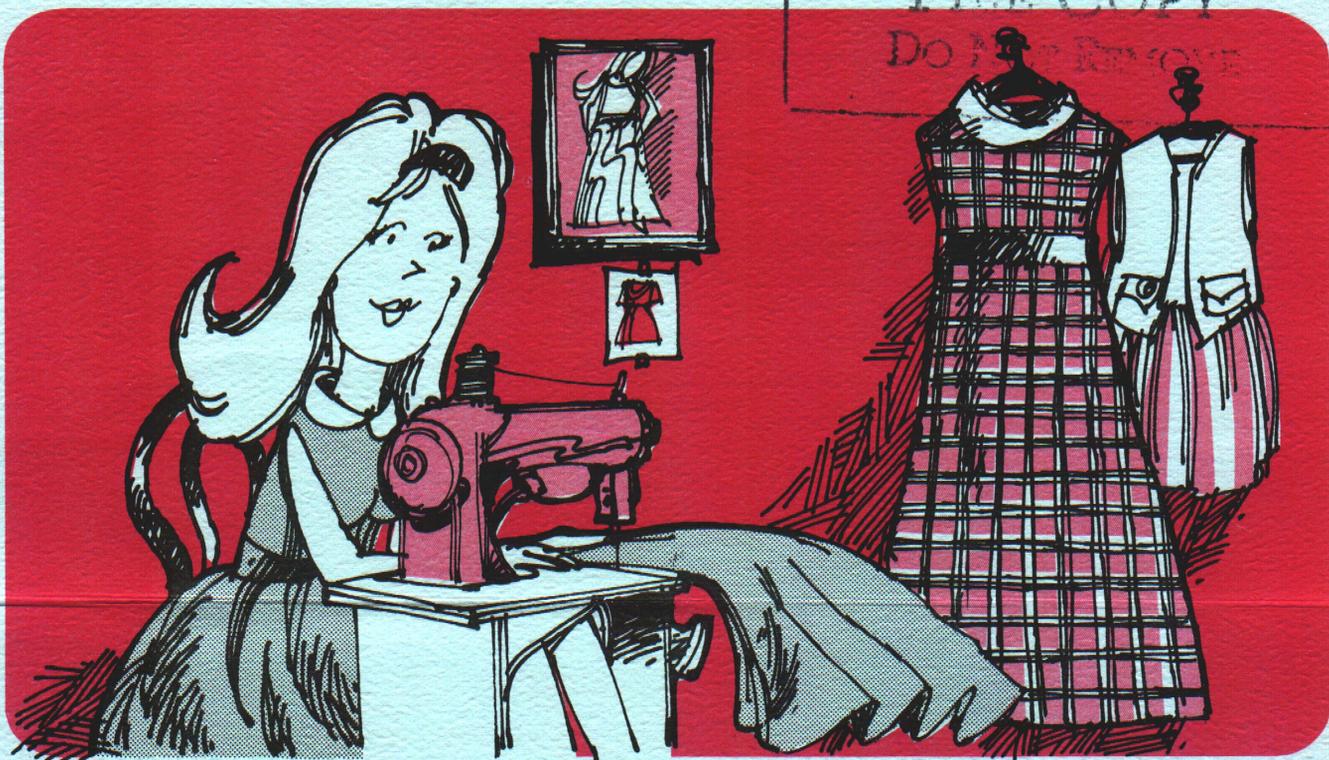
Bernetta Kahabka, Extension Specialist in Textiles, Clothing and Related Arts

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# Sewing Fashion Fabrics

EXTENSION BULLETIN E-634

Home and Family Series

COOPERATIVE EXTENSION SERVICE — MICHIGAN STATE UNIVERSITY

By Bernetta Kahabka

*Extension Specialist in Textiles, Clothing, and Related Arts*

CONSIDERABLE TIME AND THOUGHT may go into your choice of a pattern design and fabric to sew. The selecting and deciding doesn't always end there, however.

Suppose you've chosen a fabric that you're not familiar with? A new fabric on the market? A fabric that you're not sure how to handle?

This is when further decisions become important—those decisions you make about the choice of stitching techniques. The fabric you choose may have some characteristics which *directly influence* how you sew it. Your stitching techniques may need to be adjusted to it. Techniques which are specifically adapted to the fabric can contribute to the final success of your sewing.

How can fabrics be classified for considering sewing techniques?

How can sewing techniques be adjusted to such characteristics?

Although there will always be some variations, fabrics which may require special handling can be classified into three groups for selecting sewing techniques:

## Stretch

The stretch fabric characteristic requires stitching which stretches, extends or gives with the fabric.

## RIGID

The rigid fabric characteristic requires stitching which gives the fabric the least resistance.

## Special Surface

Fabrics with "surface interest" require stitching techniques which do not detract from that interest (or the surface).

# STRETCH FABRICS

## FABRIC

Knitted constructions

Weaves which allow yarns to shift or move

Weaves which have flexible yarns or yarns from flexible fibers \_\_\_\_\_

## SOME EXAMPLES

Double knits  
Jerseys  
Tricot knits  
Basket weaves  
Tweeds  
Crepes  
Stretch fabrics  
Spandex fiber fabrics  
Others

*How Does the "Stretch" Characteristic Influence the Choice of Sewing Technique?*

## TENSION

A balanced but slightly loose thread tension will give a more flexible stitching line which is in keeping with the extensibility of the fabric.

*This might require loosening the bobbin thread tension as well as the needle thread tension and then balancing them.*

## STITCHES PER INCH

An increase in the number of stitches per inch will give more thread in the stitching line to extend with the extensible fabric.

*For many knits, especially synthetic fiber tricot knits and jerseys, and fine crepes, 12 to 15 stitches per inch or more are often recommended.*

**Note:** In direct contrast to the extensible factor, shoulder and waistline seams in such fabrics are often stabilized by stitching tape into the seams—areas where stretch is not desired.

## NEEDLE AND THREAD SIZE

The size of needle and thread for sewing stretchy fabrics is not particularly important except for those fabrics made from synthetic fibers (synthetic jerseys, tricots, double knits). Fine, sharp needles and fine threads which can pierce the tough, resistant synthetic fibers/yarns with the least distortion will produce the smoothest stitching line. Synthetic sewing threads, which in themselves may have "extensible" properties, may permit smoother stitching. Change needles frequently because they dull quickly when sewing synthetic fiber/yarn fabrics.

*The "stretch" characteristic requires stitching which extends or gives with it.*

# RIGID FABRICS

## FABRIC

Firm, close weaves

Weaves in which yarns are kept in a fixed position by processes or treatments

## SOME EXAMPLES

Dock, drill, tarpoon, Taffeta, ticking.  
Durable press  
Wash and wear  
Non-wovens, spun bondeds,  
Fixed fiber fabrics  
Vinyls  
Others \_\_\_\_\_

*How Does The "Rigid" Characteristic Influence the Choice of Sewing Technique?*

## TENSION

A slightly loose needle thread tension (balanced with the bobbin thread tension) will reduce the pull of stitches on rigid fabrics.

## STITCHES PER INCH

Fewer stitches per inch will show less distortion on the stitching lines of rigid fabrics. The more the surface and yarns are penetrated, the greater the distortion which most often shows up in a puckered seam line.

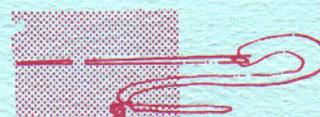
*Ten to 12 stitches per inch can generally be used for rigid fabrics unless seam strength is very important.*

## NEEDLE AND THREAD SIZE

Fine needles and corresponding threads reduce friction and prevent damage to yarns and surfaces. Coarse needles, dull needles, coarse thread can cause fabric distortion and seam puckering when needle and thread are pushed and pulled through the rigid fabric. Change needles frequently to keep them sharp.

## TOP STITCHING

Avoid topstitching on rigid fabrics. Sometimes after laundering or dry-cleaning, topstitching on such fabrics looks even less smooth because the thread contracts more than the fabric.



## SEAM PUCKERING

Seam puckering seems to be a very common problem with rigid fabrics. Any one or a combination of the following techniques may help:

Use finer needles.

Reduce the number of stitches per inch.

Loosen bottom machine tension and adjust top tension to balance.

Use bias or slightly "off-grain" seams.

Stitch at consistent, steady speeds—not fast.

Use a zig-zag stitch.

Use a sewing thread with the same degree of stability or flexibility as the fabric so that it flexes and contracts the same amount as the fabric.

Adhere a small strip of masking tape over the needle hole of the machine to prevent some fabrics, especially sheer fabrics, from being pulled in and causing wrinkling and puckering.

*"The 'rigid' characteristic requires stitching which gives it the least resistance.*

## Special Surface Fabrics

Variations in smooth to rough, wrinkly, or furry; thin to thick; shiny to dull; fine to coarse influence the choice of sewing techniques. Surface interest may be more important than stretchy or rigid characteristics in determining stitching techniques.

Use those sewing techniques which retain and support the special surface characteristics of such fabrics—at least not detract from them as indicated in the following examples.

### NAPPED OR PILE FABRICS

Napped or pile fabrics can range from fine velvets to corduroys to shaggy fake furs.

Fine needles and thread, a loose thread tension and fewer stitches per inch (8 to 12) prevent an imbedded (tight and indented) stitching line effect which detracts from the nap and depth of the surface.

Using fewer stitches per inch along with a loose tension permits each long stitch to travel the thread over the height of the pile or nap and also enter the surface less often to distort it.

*After stitching some deep, pile fabrics, a pin or needle can be used to release the long pile yarns or fibers which are caught in the seams.*

Try to visualize how topstitching could add to or detract from the natural surface interest of such fabrics.

Decreasing the presser-foot pressure when feeding two or more layers of such fabrics through the machine will prevent "shifting" of the layers when stitching. If pressure is too heavy, the layers of fabric feed through the machine at different rates of speed, one sliding ahead of the other. Using less pressure will also prevent crushing of the nap or pile and marring the surface of a velvet or velveteen.

**Note:** What currently fashionable fabrics call for similar techniques?

### SMOOTH, SHINY

Such fabrics ranging from satins to vinyls are best served by sewing techniques which keep their smooth surface intact as much as possible.

While the number of stitches per inch may range from 8 for the vinyl to 16 for the satin, a fine needle, loose thread tension, and light presser-foot pressure will detract as little as possible from the surface interest.

Although light presser-foot pressure can help to avoid leaving imprints and marring the smooth surface, some fabrics need further protection with a layer of tissue paper placed between the fabric and the feed dog of the sewing machine.

**Note:** What currently fashionable fabrics call for similar techniques?

### SHEERS

Sheer fabrics can be stretchy (crepe, chiffon) or rigid (organdie, organza).

Such fabrics often need more stitches per inch (14 to 18) to stabilize seam positions but a fine needle and thread and a loose tension will be more consistent with the more delicate fabric.

Some sheers can be marred or marked by presser-foot pressure but enough is needed to feed the sheer, thin fabric through the machine. This may call for extra support with a layer of tissue paper between the feed dog of the machine and the fabric.

The tissue paper can prevent extremely sheer fabrics from literally being drawn into the needle hole of the sewing machine, causing snagging and distortion. Some machines have interchangeable throat plates for straight and zig-zag stitching.

On the other hand, when the amount of pressure required to feed the fabric through the machine results in a shifting of the layers, machine basting in one direction and permanently stitching in the opposite direction may help to keep the layers in position.

*Fabrics with "surface interest" require stitching techniques which do not detract from that interest (or the surface.)*

## "NO-PROBLEM" FABRICS

Many fabrics require no special handling because they are a compromise of the three fabric characteristics just discussed. They are stable with just enough extensibility to be easy to handle. They may have just enough surface interest to camouflage and conceal stitching techniques without requiring special attention.

# Threads

Thread choice will be dependent upon the importance of one or more of the following factors and what is available in local areas.

## APPEARANCE

Select a thread shade slightly darker than the fabric if an exact match is not possible. Unless used in a decorative way or for a high degree of seam strength, thread should blend into the fabric as much as possible. Mercerized cotton thread has the most available colors.

Shiny, dull, coarse, or fine threads might be considered to parallel similar fabric characteristics.

## STRENGTH

Size (thickness and diameter) and fiber content both influence thread strength. Generally, thick threads are considered stronger than fine threads, and silk, nylon, and polyester fiber threads are considered stronger than cotton threads. Therefore, the apparently greater strength of a silk, nylon, or polyester fiber thread may be somewhat offset by its fine size, while the mercerized cotton in a heavy-duty size has increased strength.

## ELASTICITY

Threads with stretch characteristics might be used to stitch extensible fabrics, especially those of synthetic fibers. Nylon thread has considerable elasticity. Silk thread has more elasticity than cotton thread.

When sewing with such threads, decrease thread tension so that it does not over-stretch or over-extend the thread. After stitching, it may contract more than the fabric, causing a puckered stitching line.

## FIBER

In terms of care, especially heat sensitivity problems, thread selection might consider a match-up of thread fiber to fabric fiber or fibers: Synthetic (nylon and polyester) threads with synthetic fiber fabrics, silk thread with silk fabrics and wool fabrics (animal fibers) and cotton threads with cottons, rayons, and linens (cellulosic fibers).

Cotton covered synthetic core threads may prove less heat sensitive than all-synthetic fiber threads.

Before blaming thread for frequent breakage, check the size of the sewing machine needle eye to make sure that it's consistent with thread size.

Many fabrics will not require an analysis of sewing thread selection to the above extent, but occasionally one or more factors will merit consideration with some fabrics and the use and care they will have.

# Topstitching

Topstitching is a sewing technique for further defining and/or supporting design line or detail. Degrees of definition and support desired can be achieved by the following techniques.

Use regular thread with which you are sewing in two or more rows spaced right next to each other—no space between.

Use a large size machine stitch to emphasize topstitching.

Use buttonhole twist, several strands of embroidery floss, or single strand embroidery cotton to make topstitching more prominent.

Use a looser machine tension to allow the thread stitches to lay without undue tension on the surface of the fabric, and thus appear more prominent.

Give further importance to topstitching by padding (filling in) spaces between the topstitching and the edge of seam which it defines. For example, run strands of soft yarn through the space to puff it out.

Accuracy in stitching and in spacing is important for a professional look. Experiment with threads, stitches, tensions, and spacings on samples which have all the layers of fashion fabric and supporting fabrics that will be finally used.

*Stitching fabric pieces together into a design is more than just a mechanical process. The selection and execution of the process—STITCHING TECHNIQUES—can help the fabric support the design.*