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Furniture Fabrics

Michigan State University

Cooperative Extension Service

Margaret Boschetti, Extension Specialist in Home Furnishing

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# Furniture Fabrics

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BY MARGARET BOSCHETTI  
Extension Specialist in Home Furnishings

Furniture fabrics are an expensive investment, whether you purchase new furniture or plan to reupholster existing pieces. There are three factors which provide a good basis for analyzing such an investment: (1) design appeal, (2) resistance to wear and (3) ease of care.

A fabric's design appeal strongly influences your selection and ultimate satisfaction with an item of upholstered furniture, while the fabric's resistance to wear and ease of care contribute to the maintenance of its original appearance.

—A fabric's **design appeal** depends on the visual and tactile (touch) qualities, which color, texture and pattern create.

—Fabrics that are **resistant to wear** can withstand pulling, rubbing and abrasion while maintaining their shape under the normal stresses and strains of daily use.

—Fabrics with **ease of care** are resistant to wrinkling, soiling and staining.

It is not always easy, or possible, to find a furniture fabric that combines—to your satisfaction—these three factors at a price you can afford to pay. Sometimes one desirable characteristic may cancel out another. For example, a very durable fabric may have limited design appeal or vice versa. So, when selecting furniture fabrics, you may have to make some compromises.

Buying furniture is not only a major investment—it is one that most families make more than once. And your family's life style—which may change over a period of time—will influence the decisions you make concerning the relative importance of design appeal, resistance to wear and ease of care.

—Do you want your furniture to be lived in or looked at?

—How important is durability to your family's way of living?

—Do you want a long-lasting fabric, even if you will

tire of the color and texture before it wears out?  
—Are you willing to spend time caring for finer, more delicate fabrics to maintain their esthetic appeal?

In selecting a fabric that will be serviceable for your family in terms of design appeal, resistance to wear or ease of care you can base your evaluation upon the component factors of fiber, yarn type, fabric structure and finish.

## Fiber Content

Fiber content is one measure of a fabric's expected performance, but since basic fiber characteristics can be altered considerably in later stages of fabric production, do not overvalue this factor when selecting fabrics.

\*Fiber characteristics which contribute to fabric **design appeal** include: the ease with which they accept dyes and their colorfastness to strong sunlight.

\*The strength and abrasion resistance of fibers have a bearing on fabric durability or **resistance to wear**.

\*A fiber's moisture absorption and resilience influence fabric **ease of care**. Fibers that absorb moisture quickly have low resistance to staining; resilient fibers "bounce back" when crushed and will not wrinkle easily.

A summary of these characteristics for each of the fibers most commonly used in furniture fabrics can be found in the chart on page 4.

Fabrics purchased by the yard for reupholstering must, by law\*, be labeled according to fiber content, including the generic, or "family," name and percentage of each fiber represented. This information gives you some clues as to the wearability and care requirements of the fabric. Fabrics on upholstered furniture

\*Textile Fiber Products Identification Act of 1960

do not have to be labeled according to fiber content, and the dealer may be your only source for this information.

Usually, furniture fabrics are composed of a blend of fibers in order to take advantage of their combined qualities at a lower cost. At least 20 percent of a fiber must be present in a blend to contribute to the performance characteristics of the fabric, with the exception of spandex, which provides considerable stretch at very low percentage levels. Labeling fabrics as to fiber percentage does not tell you whether the blend occurs within the yarn or between yarns of different fibers. Beware of labeling that emphasizes 100 percent nylon "warp" (lengthwise) yarns and ignores the rayon "filling" (crosswise) yarns.

**Cotton, rayon and acetate fibers** are most commonly used in furniture fabrics, because they are inexpensive to produce in a wide variety of colors and textures.

**Wool fabrics** make long-wearing upholstery coverings, but are more expensive and uncomfortably warm in the summer.

**Glass fabrics** are now available on upholstered furniture and have promise of good wearability due to high strength, stain resistance and colorfastness. The tendency for glass fibers to break when abraded, and to irritate sensitive skins is controlled by polymer-coating the fibers.

**Synthetic fibers** are ideal for furniture fabrics because they are strong and have built-in stain resistance. **Olefin** fabrics are widely used for furniture because their zero absorbency means high stain resistance. The low melting point of olefin fibers requires caution in the use of smoking materials, however.

The high strength and abrasion resistance of **nylon** and **polyester** fibers mean exceptional durability for upholstery fabrics. The design appeal of fabrics composed of these high-strength fibers can be disturbed by "pilling"—a condition that results when friction, instead of breaking the fibers, causes small balls to form on the fabric surface. **Polyester** fibers also have the disadvantage of low resistance to oily stains.

## Yarns

The yarns which interlace to form a fabric also have an effect on fabric **design appeal, resistance to wear and ease of care.**

**Degree of twist.**—Fabrics composed of yarns with low twist, heavy **slubs** and loose, curling threads are aesthetically pleasing, but snag and catch more easily than compact fabrics with smooth, tightly twisted yarns. Also, low-twist yarns have a lower resistance to staining because they expose more surface to attract moisture and dirt.

**Size.**—You cannot always evaluate the relationship between yarn size and yarn strength by sight. A fine yarn composed of several strands or filaments, tightly twisted, may be as strong as a heavier, single yarn with low twist. The smooth, lustrous fabrics, which fine yarns create, require care to maintain their appearance

because they show spots and stains more quickly than fabrics of thick heavy yarns.

## Fabric Structures

### Woven Fabrics

Two factors will help you evaluate the **design appeal, resistance to wear and ease of care** of woven furniture fabrics.

**Closeness of Weave**—The more threads per inch, the greater a fabric's resistance to abrasion, wrinkling, raveling, and the better its recovery from diagonal stretching. Hold your fabric selection in front of a lamp or window to see how much light penetrates the woven structure. Sometimes a loosely woven fabric of heavy yarns is preferable for its high esthetic appeal. Such fabrics often have an acrylic or rubberized backing to help stabilize shape and allow for closer trimming on seams, which reduces bulk without increasing potential for seam slippage.

**Length of Yarn Float**—Fabrics with nubby textures, raised designs, and long yarns floating on the surface are less durable and more difficult to care for than hard-surfaced, evenly balanced woven fabrics. Long yarns on a fabric surface snag, show soil and stain more quickly. However, the design appeal of fine fabrics, such as satins, brocades and damasks can outweigh their lower durability when long wear and hard use are not required.

**Pile fabrics** such as velvets, velveteens, plushes and fake furs are popular because of their tactile and visual appeal. A firm, closely woven background creates a dense, resilient and durable pile. The potential for staining in pile fabrics is high, however, due to the amount of fiber exposed to the surface. Fibers which have low wrinkle resistance will crush easily and cause shading and color distortion in pile fabrics.

### Knit Fabrics

Plain and stretch knits are relatively new on upholstered furniture. Because of "built-in give," knit fabrics conform smoothly and without bulk to the curved lines and free forms of modern furniture styles. Knit fabrics are wrinkle resistant, but will snag and run when exposed to rough treatment. Because knits tend to lose their shape after long periods of sitting, they are sometimes laminated to a foam backing for greater stability.

### Non-woven Fabrics

**Vinyl fabrics** are popular for furniture because they are durable and easy to care for. They have high resistance to abrasion but can be scratched. Fabric-backed vinyls are more flexible and have greater tear strength than those which are unsupported. The weight of the backing determines potential use. For example, a heavy backing is desirable for vinyls used over spring construction in an upholstered chair or sofa.

Vinyls are nonabsorbent, but sometimes pick up color. They can be cleaned with mild soap and water but the heat generated by strong detergents and cleaning solvents will cause them to stiffen and eventually

crack. Vinyl fabrics are available in a wide range of colors and textures and have good resistance to sunlight. Their major disadvantage for furniture use is a comfort factor: smooth surfaced vinyls are hot in summer and cold in winter.

**Urethane-coated fabrics** (also called polyurethane) have not been on the market long enough to allow evaluation of manufacturers' performance claims. These fabrics are composed of a synthetic foam, or film, applied to a knit or woven backing. Although they are similar in appearance to vinyl fabrics, urethanes are derived from a different chemical base and have their own specific set of characteristics. Urethanes are **poromeric** which means that they are "breathable" and have the "give and take" of leather, as well as the soft hand and appearance of leather. Although less durable than vinyl, they are said to have high strength, high scuff and tear resistance, and will not stiffen or crack with age or changes in temperature.

### Leather Fabrics

Leather is an expensive, luxurious, but highly durable and long wearing furniture covering. Although leather has a tendency to water spot, it is scuff resistant and can be finished to resist alcohol, perspiration stains and cracking. Leather is naturally soft and pliable and comes in a variety of colors and textures.

### Fabric Finishes

In the final stages of production, furniture fabrics go through various finishing procedures which enhance their appearance and improve their performance. Finishes which enhance fabric **design appeal** are highly visible, for they give the fabric increased body, heightened luster and a more interesting texture. Since finishes which improve fabric **wearability** or **ease of care** usually cannot be identified by sight, only adequate labeling will inform you what protective processes the fabric you select may have received.

Abrasion-resistant and antislip finishes are sometimes applied to fabrics of low strength fibers to improve their **resistance to wear**.

Stain-resistant finishes are often applied to furniture fabrics to improve **ease of care** by decreasing their rate of moisture absorption. Thus, spills on protected fabrics tend to bead up on the surface where they can be easily removed when attended to promptly, rather than soaking into the yarns of the fabric where they are more difficult to dislodge.

**Silicone finishes** protect fabrics from water-borne stains; **fluorochemical finishes** guard against water and oil-borne stains. Such finishes are preventive; they do not eliminate the need for regular cleanings to avoid excess soil build-up. Factory-applied finishes are more durable than those which you apply yourself at home, although frequent dry cleaning will decrease the effectiveness of both. **Scotchguard and Zepel** are brand names for fluorochemical finishes which you can purchase in hardware stores, discount houses, drug stores or grocery stores.

## Color and Design

Of all the factors which influence your selection of a furniture fabric, **design appeal** probably carries the most weight, yet it is also the most difficult to evaluate because of the importance which personal preference brings to the decision.

The variety of colors, textures and patterns available provides you with an adequate opportunity to select the fabric which reflects the style and mood most comfortable to your family's way of living. However, there is also variety in the methods by which fabrics receive their color and design interest and some offer greater long-term resistance to wear and care procedures than others.

Color and design may be introduced to fabrics at various stages in production: at the yarn stage, or after weaving by piece dyeing and/or surface printing.

Patterns formed by the interlacing of colored yarns are the most durable because they are literally "locked-in" to the fabric structure. Fibers with easy colorability can be **yarn-dyed**; some synthetic filaments are dyed while in solution to improve their dyeability and colorfastness.

There is little advantage to yarn dyeing if a solid-color fabric is desired; **piece dyeing** is more economical and just as durable provided the color spread is uniform. Usually you cannot tell by sight if a solid-color fabric has been yarn dyed or piece dyed, except by raveling out a few yarns. Tightly woven fabrics may not piece dye as evenly as more loosely structured fabrics. In some cases, piece dyeing can produce multi-color effects when several fibers in a fabric blend are treated to react differently to the same dye bath.

The design of **printed fabrics** is versatile and economical to produce, but offers least durability to the wear which most furniture fabrics receive because color is applied to the surface only and may not penetrate the fabric structure.

### Summary

Be creative in your selection of furniture fabrics! Today's market provides you with many choices, so it is no longer realistic to expect one to be the best buy. There may be several good buys for your particular situation.

Look for fabrics that combine characteristics which yield high satisfaction in the factor most important to your family, whether it be **design appeal**, **resistance to wear** or **ease of care**.

\* A closely woven fabric of low-strength fibers in tightly twisted yarns protected by a stain-resistant finish may have better wearability than a loosely woven fabric of synthetic fibers with no supportive backing.

\* A pile fabric of absorbent fibers with a stain-resistant finish may be as easy to care for as a synthetic plush with no protective finish.

\* Families with no small children may find that fabrics with high design appeal and low resistance to wear, when properly cared for, will serve them satisfactorily for many years.

## FIBER CHARACTERISTICS

Basic Fiber Characteristics May Be Altered in Later Stages of Fabric Production

FIBER	DESIGN APPEAL		RESISTANCE TO WEAR		EASE OF CARE	
	Dyability	Color-Fastness to Sunlight	Strength	Abrasion Resistance	Moisture Absorption	Resilience
Cotton	high	low	low-medium	medium	high	low
Rayon: HWM: Avril Lirelle, Zantrel	high	high for solution-dyed; others low	low* *exception: high-tenacity rayon has greater strength and abrasion resistance	low*	high* *exception: high, wet, modulus rayon (HWM) has less absorbancy	low
Acetate	medium	high for solution-dyed; others low	medium	low	medium	medium
Acrylic	high	high	high	high	low	high
Nylon	high	medium	high* *loses strength when exposed to strong sunlight	high* *spun fibers and staple fibers may pill	low	medium
Olefin	medium-improving	high	high	high	low lowest of all fibers	high
Polyester	high	high	high	high staple fibers may pill	low	high
Wool	high	medium-yellows with exposure to strong sunlight	medium	medium	high furniture fabrics of wool and wool blends should have moth-proof finish	high

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