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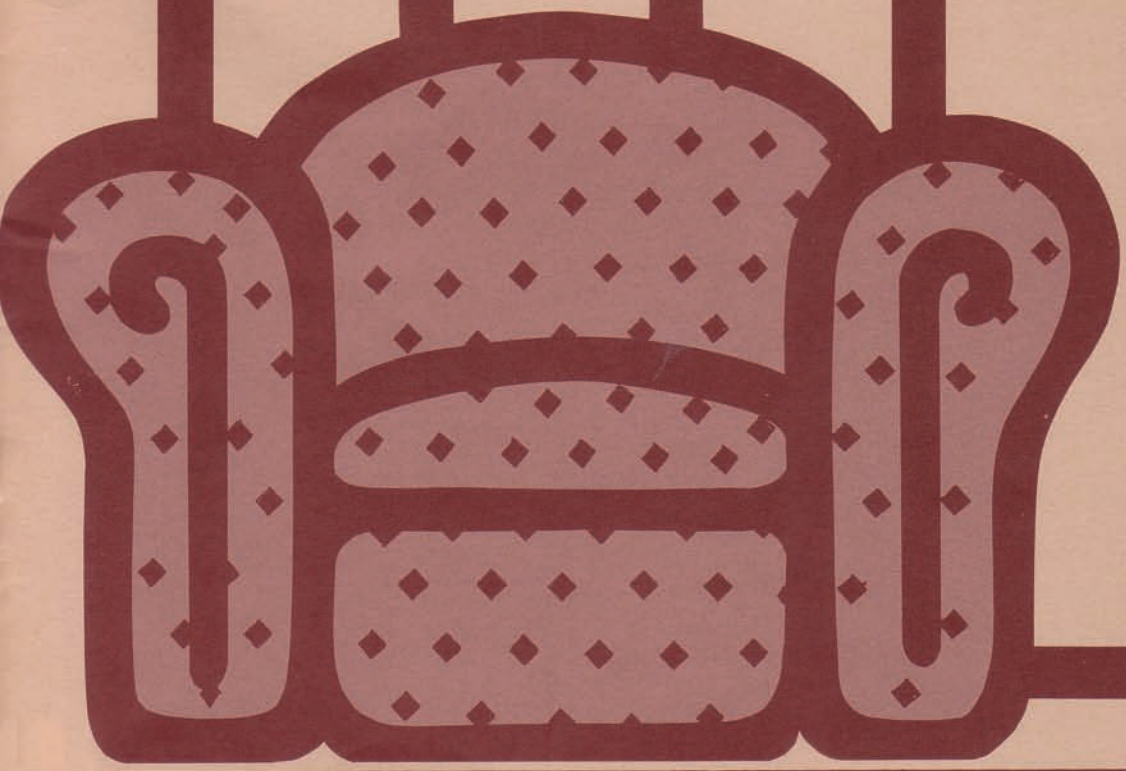
Take Cover:

A Guide to Selecting Furniture Fabrics



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Take Cover: A Guide to Selecting Furniture Fabrics

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This publication is for persons considering an investment in upholstered furniture or upholstery fabric. It covers basic information on fabric components and construction to help the reader make a wise purchase.

There are two general categories of furniture fabrics: those meant for use as slipcovers, and those for use as upholstery. Slipcovers are designed to fit snugly and yet be removable for cleaning. For sewing ease, slipcover fabrics tend to be light to medium in weight. Upholstery fabrics are generally heavier; they are nailed or stapled directly to the furniture's frame or bonded to the padding. They are not removable. This discussion of furniture fabrics is primarily intended for use in selecting upholstery fabrics.

Furniture fabrics are expensive. In selecting new upholstered furniture or fabric for reupholstering existing pieces, you must choose from a vast array of colors, textures, patterns, fibers, and blends. These three factors provide a good basis for selecting the appropriate fabric: (1) design appeal, (2) ease of care, and (3) resistance to wear.

Design appeal results from the visual and tactile (touch) qualities created by color, texture, and pattern.

Ease of care means fabrics resistant to wrinkling, soiling and staining.

Resistance to wear depends on how well the fabric maintains its shape and texture when pulled, rubbed, and abraded under the normal stresses and strains of daily use.

A fabric's design appeal influences your selection and ultimate satisfaction with an item of upholstered furniture, while its resistance to wear and ease of care contribute to the maintenance of the fabric's original appearance. It is not always easy to find a furniture fabric that combines these three factors to your satisfaction 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, be prepared to compromise.

Upholstered furniture is not only a major investment—but also one that most families make more than once. A family's lifestyle, which changes over time, will influence the relative importance of design appeal, resistance to wear, and ease of care. Ask yourself:

- "Do I want my furniture to be lived with or looked at?

- "How important is durability to my family's way of living?

- "Do I want a long-lasting fabric, even if I will tire of the color and/or pattern before it wears out?

- "Am I willing to spend extra time caring for finer, more delicate fabrics?"

In selecting a fabric that will be serviceable for your family in terms of **design appeal, ease of care,** or **resistance to wear** base your evaluation on fiber, yarn, construction, color and design, and finish. Information on the label of upholstered furniture may help.

Fiber Content

A fabric's fiber content is a good measure of its expected performance. But, since basic fiber characteristics can be altered in later stages of fabric production, don't over-value this factor when selecting fabrics.

*Fiber characteristics which contribute to **design appeal** include: The ease with which they accept dyes, their colorfastness to sunlight, and their texture.

*A fiber's moisture absorption and resilience influence fabric **ease of care.** Highly absorbent fibers have a low resistance to staining; resilient fibers "bounce back" when crushed and will not wrinkle easily or mat down.

*The strength and abrasion resistance of fibers help determine fabric durability or **resistance to wear.**

These characteristics for fibers most commonly used in furniture fabrics have been summarized in Table 1.

Table 1. Basic fiber characteristics may be altered in later stages of fabric production.

FIBER (Trade Names)	DESIGN APPEAL		EASE OF CARE		RESISTANCE TO WEAR	
	Dyeability	Colorfastness to Sunlight	Moisture Absorption	Resilience	Strength	Abrasion Resistance
Acetate (Estron, Lanese)	medium	high if solution dyed; others low	medium	low	medium	low
Acrylic (Creslan, Acrilan, Orlon, Zefran)	high	high	low	high	medium to high	medium to high
Cotton (Natural)	high	low to medium	high	low	medium	medium
Modacrylic (Verel, Elurg)	high	high	low	medium	high	low to medium
Nylon (Antron, Cadon, Zeflon)	high	low to medium	low	medium	high (decrease with sun exposure)	high
Olefin (Herculon, Marvess, Vectra)	medium to high	high	low[a/]	medium	medium to high	high
Polyester (Avlin, Dacron, Fortrel, Kodel, Spectran, Strialine)	high	high	low	high	high	high
Rayon (Avril, Enkrome, Fibro)	high	high if solution dyed; other low	high exception: high wet modulus rayon (HWM) has less absorbency and better resilience	low	low exception: high-tenacity rayon has greater strength and abrasion resistance.	low to medium
Wool (natural)	high	medium[b/]	high	high	medium	medium

a/ Lowest of all fibers.

b/ Yellows with sun exposure.

Source: Lyle, Dorothy Siegert. *Modern Textiles,* New York: John Wiley and Sons, Inc., 1982

Upholstery fabrics are often made with a blend of fibers, with each fiber providing its own special qualities. Usually, 15 to 20 percent of a fiber must be present in a blend to contribute its performance characteristics to the fabric. Labels do not tell whether the blend occurs within the yarns or between yarns of different fibers. When yarns of varying strength are combined in a fabric, the weaker ones will wear first—which can lead to fabric splitting. Beware of labeling that emphasizes 100% nylon warp (lengthwise) yarns and ignores the rayon filling (crosswise) yarns.

The majority of furniture fabrics are composed of synthetic fibers. They are made primarily from petrochemicals and are ideal for upholstery fabrics because they are strong, hold their shape well, and, since they have low moisture absorption, resist water-borne stains. However, unless treated with a protective finish, some are subject to permanent staining from body oils, perspiration, and other oily stains.

Nylon, olefin, and **polyester** are extremely strong and abrasion resistant, which means exceptional durability for furniture fabrics. The design appeal of fabrics composed of these high-strength fibers can be disturbed by "pilling," or the formation of small fuzzy balls on the fabric surface. Pilling is more of a problem on fabrics composed of shorter staple length fibers than on those woven of continuous filament yarns. **Acrylics** are moderately abrasion resistant; **modacrylics** are low in this characteristic.

All synthetic fibers are heat sensitive, and their low melting point requires caution in the use of smoking materials or near open fires. **Modacrylics** are the only naturally flame resistant synthetic fibers though others can be treated for flame retardance. Fire resistency in upholstered furniture will be discussed later.

A variety of properties is possible within each classification of synthetic fibers. They can be modified to change both physical appearance and performance. For example, synthetic fibers can be texturized, given increased bulk and/or antistatic properties before they are even made into yarns. Great improvements have been made in recent years in the types of dyes used with synthetic fibers; a wide range of colors is now available.

Cotton, rayon and **acetate** accept dyes well, but have only moderate strength and tend to fade with exposure to sunlight. Once used extensively for furniture fabrics, their use today is limited primarily to blends with other fibers. Fabrics made from these fibers have high moisture absorption and require stain resistant finishes for easier care.

Wool fibers make durable and easy-to-care-for upholstery fabrics. However, they are expensive and relatively small amounts are used today, mostly in blends. Furniture fabrics of wool and wool blends should always have a moth-proof finish.

Yarns

Yarns which interlace to form a fabric also have an affect on fabric **design appeal, ease of care** and **resistance to wear.** A yarn is a group of fibers laid or twisted together to form a continuous strand. They are made from either short (staple) fibers or very long (filament) fibers. Variations in twisting and spinning can produce a variety of textures and patterns in finished fabrics.

***Degree of twist** - Fabrics composed of yarns with low twist, heavy slubs, or loose curling threads may be aesthetically pleasing, but will snag and catch more easily than compact fabrics with smooth, tightly twisted yarns. Tightly twisted yarns are generally the strongest and most soil resistant. 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 can show spots and stains more quickly than fabrics of thick, heavy yarns.

Fabric Structures

Woven Fabrics

Woven fabrics result from the interlacing of lengthwise (warp) and crosswise (filling) yarns. In general, woven fabrics come in two weaves: flat and pile.

Flat weaves include tweeds, twills, and satin weaves. They have no pile although they may have a coarse and/or nubby texture. A plain weave is simply yarns interlacing at right angles passing alternately over and under each other (Figure 1).

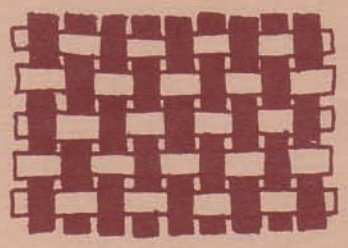

Figure 1. Plain Weave.

A twill weave is one in which each warp or filling yarn floats across two or more adjacent yarns with a progression of interlacings by one to the right or left to form a distinct diagonal line or wale. A filling twill is very uncommon as it is less durable than the warp twill. A float is that portion of a yarn which crosses over two or more yarns from the opposite direction (Figure 2).

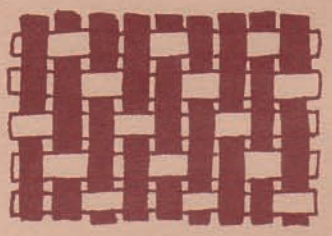

Figure 2. Twill Weave.

A satin weave results when the yarns from one direction (it can be either warp **or** filling) float over four or more yarns from the other direction with a progression of interlacings to the right or left (Figure 3).

Figure 3. Satin Weave.

Flat weaves can produce a design or pattern such as in brocade, damask, Jacquard, matelasse', and shantung.

Pile weaves are three-dimensional fabrics that have yarns or fibers forming a dense cover of the ground fabric. Woven pile fabrics are made by weaving an extra set of warp or filling yarns into the ground yarns to make loops or cut ends on the surface (Figure 4).

Figure 4. Pile Weave (uncut loop).

This method produces fabrics such as velvet, velveteen, corduroy, frieze, and fake fur. These fabrics are popular because of their tactile and visual appeal and are very durable if they have a firm, closely woven background, a dense, resilient pile, and are made from strong fibers. 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.

Two factors will help you evaluate the **design appeal, ease of care** and **resistance to wear** of woven furniture fabrics: closeness of weave and length of yarn float.

***Closeness of weave** — Generally, the closer the weave and the tighter the yarn twist, the more resistant the fabric will be to abrasion, wrinkling, seam slippage, raveling, and soiling and the better its recovery from diagonal stretching. A simple test is to hold your fabric selection in front of a lamp or window to see how much light comes through. Sometimes a loosely woven fabric of heavy yarns is preferred for its aesthetic appeal. However, loose weaves are less durable because there is less fiber to take the daily wear and tear. Such fabrics often have a latex or acrylic backing to help stabilize them and minimize some of their problems. A coated backing also minimizes fabric slippage on seat cushions, prevents soil from sifting through and prevents seam slippage. Beware of thick backings which may mask a poor quality fabric.

***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 smooth-surfaced, evenly balanced woven fabrics. Long or loose yarns on a fabric surface snag, and show soil and stain more quickly. However, the design appeal of fine fabrics, such as satins, brocades, and damasks may outweigh their lower durability when long wear and hard use are not required.

Knit Fabrics

Plain and stretch knits are relatively new fabrics for use on upholstered furniture. Because they have "built-in give", knit fabrics conform smoothly and without bulk to the curved lines and free forms of contemporary furniture styles. Knits are wrinkle resistant, but can snag and run if given rough use. Good quality knit fabrics are composed of small loops; and those laminated to a backing material are less likely to lose their shape after long periods of use. A pile or velvet fabric is also possible with knits.

Non-woven Fabrics

Vinyl fabrics are chemically manufactured materials available in a wide range of colors which can be embossed with many textures. They are popular for furniture because they are durable and easy to care for.

Supported vinyl has a fabric backing, usually a lightweight knit, which makes it more flexible and more resistant to tears than unsupported products. Expanded vinyl has a sponge-like, cellular structure and a soft, pliable texture.

Vinyls are nonabsorbent and so resist stains. They can be cleaned easily with mild soap and water, but strong detergent and cleaning solvents will cause them to stiffen and eventually crack. Some vinyls are "color scavengers" which means they tend to pick up dye from objects rubbed across them.

Vinyl can be punctured by sharp objects and is difficult to mend. The major disadvantage for furniture use is a comfort factor: they tend to be hot in summer and cold in winter.

Leather is an expensive, luxurious, highly durable and long wearing furniture covering. Although it has a tendency to waterspot, most leathers available today are pretreated and require little care. Leather has a high aesthetic appeal. It is naturally soft and pliable and comes in a variety of colors and textures.

Color and Design

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

The wide variety of colors, textures, and

patterns available provides you an opportunity to select a fabric which reflects the style and mood best suited 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 resistance to wear and simpler care procedures than others.

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

Some synthetic fibers are **solution dyed** before being extruded as filaments to improve their dyeability and colorfastness; other fibers with easy colorability can be **yarn dyed.** Patterns formed by the interlacing of colored yarns are the most durable because they are literally "locked in" to the fabric structure.

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 whether a solid-color fabric has been yarn dyed or piece dyed, except by raveling out a few yarns. Sometimes tightly woven fabrics do not piece dye as evenly as more loosely structured fabrics, because the dye cannot penetrate the tighter weave. In some cases, piece dyeing can produce multi-color effects when different fibers in a fabric blend react differently to the same dye bath.

The many methods available for creating **printed fabrics** produce versatile and economical designs. Pigment prints offer the least durability to the wear which most furniture fabrics receive because color is applied to the surface only and may not penetrate the entire fabric structure. Napped and pile fabrics printed in deep colors have potential for crocking, or the rub-off of excess dye.

Fabrics are tested for exposure to intense sunlight, but industry standards are relatively low: 60 hours of exposure without noticeable fading is the norm. Color choice can help foil fading problems as the lighter, greyed tones better conceal the effects of over exposure to sunlight.

Finishes

Before reaching the consumer, all fabrics go through various finishing processes which may enhance their appearance and/or improve their performance. These processes often contribute as much to the fabric's performance as do fiber content and method of construction.

Finishes which enhance fabric **design appeal** are readily apparent, for they can give the fabric increased body, heightened luster, smoothness, or a more interesting texture. Since finishes which improve fabric wearability or ease of maintenance usually cannot be identified by sight, only adequate labeling will inform you of any protective processes the fabric may have received.

Abrasion-resistant and antislip finishes are sometimes applied to fabrics of low strength fibers to improve their **resistance to wear.** Antistatic and flame retardant finishes also contribute desirable characteristics to fabrics.

Finishes which increase a fabric's resistance to soiling and/or staining help to improve its **ease of care.** Synthetic fibers tend to repel water-borne soils but are susceptible to oily substances. If the fabric is not treated, oily stains can become permanent problems. Spills on protected fabrics will bead up on the surface where they can be removed, rather than soaking into the yarns of the fabric where they are more difficult to dislodge.

Stain-resistant finishes are available for upholstery fabrics to guard against both water- and oil-borne stains. Scotchgard® , Teflon® , and Zepel® are brand names for fluorocarbon finishes applied to many fabrics by the manufacturer. Remember that these finishes are preventive; they do not eliminate the need for regular cleanings to avoid excess soil build-up. Spills need to be blotted up quickly and not rubbed.

While factory-applied stain resistant finishes are the most durable, fluorocarbon finishes

may be bought at hardware stores, discount houses, or supermarkets for home application. Check labels to be sure the product is intended for use on upholstery fabrics. Labels stress application to new fabrics or those that are newly cleaned. None of the soil and stain resistant finishes applied to fabrics can be considered permanent. Some disappointment may be noted in their performance after several cleanings and many will need to be renewed.

Labeling

The labels attached to upholstered furniture pieces and upholstery fabrics purchased by the yard may contain valuable information. This information, along with your individual needs and desires regarding the fabrics **design appeal, ease of care,** and **resistance to wear** can help you choose an appropriate furniture fabric.

Labels and tags can give information about the fabric's expected performance, care requirements, and safety. They may specify whether a fabric is colorfast to light, laundering, dry cleaning, crocking and/or gas fumes. In addition, labels may provide information in other areas.

Fiber Content

Fabrics purchased by the yard must be labeled according to the fiber content, including the generic name and percentage of each fiber present.[1/] By referring to Table 1 the information on fiber content can give you some clues as to the wearability and care requirements of the fabric. Upholstered furniture does not have to be labeled according to the fabric's fiber content, so the dealer or manufacturer may be your only source of this information.

Cleanability

Some manufacturers use a voluntary cleanability code to provide information on the proper cleaning method for a particular fabric. These codes may be included on tags or may be found on labels under seat cushions. Look for these symbols and their meaning:

W - Use **water-based** cleaner. Use a water-based cleaning agent or foam for spot cleaning.

S - Use **solvent** cleaner. Spot clean this fabric with mild, water free drycleaning solvent.

W/S - **Water-based** or **solvent** cleaners may be used.

X - **Vacuum only.** This fabric should be vacuumed or brushed lightly to remove soil. Water-based foam or solvent-based cleaning agents of any kind may cause excessive shrinking, fading, or spotting.

Obviously, because of variations in fiber content, fabric structure and finishes, different fabrics require different amounts and types of care. Based on the amount of use and wear you anticipate giving a piece of furniture, and the amount of time and energy you are willing to expend in its upkeep, these cleanability codes can help in selecting a furniture fabric for your needs.

Durability

The furniture industry has established uniform standards for determining the probable performance of an upholstery fabric. Based on performance criteria for wear, seam slippage, color transfer, and tear strength, the fabric is recommended for heavy, medium, light duty, or delicate use. These standards are voluntary, and some stores or manufacturers do not use them. Participating manufacturers will incude the following codes on fabric swatches, labels and/or tags:

hhh (color code - green) - This fabric is rated **Heavy Duty** and is suitable for normal use by an active family with children.

mmm (color code - blue) - This fabric is rated **Medium Duty** and is suitable for use by adults in a household where the furniture is not in constant use.

lll (color code - yellow) - This fabric is rated

1/ Textile Fiber Products Identification Act of 1960.

Light Duty and is suitable for use in an adult household where furniture is selected for its aesthetic value rather than its performance.

ddd (color code - red) - This fabric is rated **Delicate.** It is primarily decorative and should be given more care than other fabrics.

If you have a good idea of the wear your furniture piece will receive these codes (when present) can help in choosing a furniture fabric that will best suit your needs.

Flammability

An estimated 39,000 upholstered furniture fires occur each year in the United States resulting in some 1,500 deaths.[2/] A majority (64%) of these fires are caused by smoking materials. In recent years the furniture industry has spent much time and money searching for ways to construct upholstered furniture more resistant to cigarette ignition.

Many furniture manufacturers, suppliers, and retailers participate in the UFAC (Upholstered Furniture Action Council) Voluntary Action Program. Construction criteria for fabrics, welt cords, decking materials, and filling/padding materials have been established for upholstered furniture that will reduce, though not eliminate, ignition by a burning cigarette. These criteria cover treating welt cords, fabrics, and filling materials with a flame retardant material; and backcoating some fabrics with a material to make them less likely to burn. The industry's voluntary program has, to date, received endorsement from the Consumer Product Safety Commission, and no mandatory regulations exist for the manufacture of flame resistant upholstered furniture. Furniture which meets the voluntary industry standards may be identified by label or hangtag, though retailers are not required to display them.

Fabric Care

Proper care of furniture fabrics can add years of wear to their life expectancy. Ease of care begins with selection. Patterned fabrics or color of medium value tend not to show soil as much as some others do.

Regular vacuuming of fabrics helps slow the soiling process and postpones the need for cleaning. Determine frequency of vacuuming by the amount and type of use you give your furniture. Never use a stiff fiber or metal brush as they may damage the fabric; also avoid pounding and beating. Reverse the seat and back cushions each time they are vacuumed.

Soil repellent finishes are a great aid in preventing stains, but they do not eliminate the need for attention to spills and spots. The more promptly the stain is removed the greater the chance for total removal. Blot spilled liquids immediately with a clean, absorbent cloth. To avoid permanent staining, remove all spots, especially oily ones, as soon as you notice them.

If a cleaning code is given for your furniture fabric, use the method recommended by the manufacturer. When removing a stain containing liquid oil or water, **blot - do not rub.** If the stain is a solid material, scrape it off the fabric with a blunt instrument. Sponge with clean water if the soil is water based or use spot remover if oil based. If the stain is removed, sponge with detergent and rinse. Blot with clean toweling to remove any residue. Always pre-test on an inconspicuous area to check for colorfastness.

Whenever complete cleaning of a furniture piece is required, or if there is a doubt about which method to use, ask a professional cleaner.

Summary

It is possible to be creative in selection of furniture fabrics to coordinate with other items in your home. 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 needs and particular situation.

[2/] 1981 data from Consumer Product Safety Commission

For good wearability, upholstery fabric should be strong and closely woven. It should be soil resistant and not snag, stretch, shrink, sag, or fade. Although all of these properties may not be found in a single fabric, they should be considered when making a final decision.

Look for fabrics that combine characteristics which yield high satisfaction in the factor most important to your situation, whether it be **design appeal, ease of care** or **resistance to wear.** Be sure you read and understand all tags and labels attached to a furniture fabric; they may contain valuable information about its care and performance. If there are guarantees, find out exactly what they cover and for what length of time.