

## FIBERS

### **COTTON—CELLULOSIC FIBER**

**SOURCE:** Fruit of the cotton plant

**WHEN BURNED:**

Ignites fairly quickly and smells like burning weeds  
Bright orange flame with gray smoke  
Not totally consumed, weave still identifiable in ashes  
Must be chemically treated to be flame resistant

**CHARACTERISTICS:**

+Versatile, dyes and prints well, absorbent  
-Wrinkles, fades, and shrinks unless mercerized and preshrunk  
-Mildews if kept moist, rots in sunlight, doesn't wear well

**CARE:** Washable and dry-cleanable, although washing may remove finishes  
May require ironing

**COST:** Moderate to high, depending upon quality

A major product of the United State and China and is readily available

**USES:** Towels, bedspreads, curtains, some rugs

### **LINEN—CELLULOSIC FIBER**

**SOURCE:** Fibers are from the stalks of the flax plant

Is grown in moderate climates--Great Britain and some European countries

**WHEN BURNED:**

Burns readily and smells like weeds, but sweeter smelling than cotton  
Bright orange flame with gray smoke  
Must be treated with flame retardant

**CHARACTERISTICS:**

+Crisp, appealing natural texture, absorbent  
+Dyes well and maintains good appearance  
-Brittle, stiff, inflexible  
-Sun fades, permanent creases  
-Stains are difficult to remove

**CARE:** Dry cleaning recommended  
Kitchen linens may be washed in hot water  
Ironing is required

**COST:** Depending upon quality (i.e. fiber length) medium to moderately high

**USES:** Fine table linens, kitchen linens, upholstery, slipcovers, drapery, wall coverings

**USES:** Carpet backing, wall covering, draperies, crafts

**JUTE—CELLULOSIC FIBER**

SOURCE: Stalk of the jute plant

WHEN BURNED:

Burns quickly and smells like weeds

Bright orange flame with gray smoke

CHARACTERISTICS:

+Dyes bright colors, strong when dry

-Will rot if kept damp, fades and is brittle

CARE: Hand wash or dry clean

COST: Inexpensive

**WOOL—NATURAL PROTEIN FIBER**

SOURCE: Wool of sheep

WHEN BURNED:

Difficult to ignite—natural flame retardant qualities

Very distinct odor of burning hair

Gray smoke

Sears back and curls, leaving a black, crisp ash

CHARACTERISTICS:

+Dyes well

+Resilient, durable, absorbent

-Scratchy

-Susceptible to moths

-Some people are allergic to wool

CARE: Dry-clean or hand wash

COST: Expensive

USES: Carpet (particularly Oriental rugs), some upholstery, wall coverings

**SILK—NATURAL PROTEIN FIBER**

SOURCE: Silkworm cocoons

WHEN BURNED:

Burns slowly and self-extinguishes

Almost sweet odor with gray smoke

CHARACTERISTICS:

+Rich, dyes well, excellent drapability

-Decomposes in sun, moisture, soil

CARE: Dry clean or hand wash

COST: Expensive

USES: May be used for draperies or wall coverings, but due to expense is usually limited to wall hangings, accessories and trims

**LEATHER—NATURAL PROTEIN FIBER**

**SOURCE:** Hides of cattle, swine, or deer

**WHEN BURNED:**

Flame resistant, but smells like meat cooking

No real flame or smoke due to difficulty of ignition

**CHARACTERISTICS:**

+Extremely durable

-Quality varies; susceptible to marks, holes, and tears

**CARE:** Mild soap and water

**COST:** Expensive

**USES:** Upholstery, desk tops, some wall coverings

**RAYON—REGENERATED CELLULOSIC FIBERS**

**SOURCE:** Wood chips and cotton linters

**WHEN BURNED:**

Ignites readily but melts before burning

Smells like other cellulosic fibers

Orange flame, black smoke

**CHARACTERISTICS:**

+Great drapability

-Will sun rot and mildew, wrinkles easily, shrinks if not treated

**CARE:** Dry clean, some are washable

**COST:** Inexpensive to moderate

**USES:** Usually blended with other fibers for draperies and upholstery

**ACETATE—REGENERATED CELLULOSIC FIBERS**

**SOURCE:** Wood chips, cotton linters, and acetic acid

**WHEN BURNED:**

Ignites readily, melts, orange flame, black smoke

**CHARACTERISTICS:**

+Silk like

-Weakens with age, particularly in the sun

**CARE:** Dry clean, some are washable

**COST:** Inexpensive to moderate

**USES:** Bedspreads, draperies, linings, slipcovers, some upholstery

**NYLON (POLYAMIDE/THERMOPLASTIC)**

SOURCE: Amide linkages attached to two aramid rings

WHEN BURNED:

Melts but self extinguishes  
Moderately flame resistant  
Gray/black smoke, bright orange flame

CHARACTERISTICS:

+Strong, durable and versatile  
-Scratchy and harsh, static, can sun rot

CARE: Dry clean or launder, cleans well

COST: Low to moderate

USES: Carpet, curtains, upholstery, wall coverings (used extensively in interiors)

**ACRYLIC (THERMOPLASTIC)--MANUFACTURED SYNTHETIC**

SOURCE: Over 85% acrylonitrile units, synthetic long-chain polymer

WHEN BURNED:

Ignites easily, melts then burns slowly  
Black smoke, bright orange, flickering flame

CHARACTERISTICS:

+Soft, warm, looks like wool, retains shape and color well, resistant to wrinkles  
-Nonabsorbent, susceptible to piling and static electricity, stretches out of shape

CARE: Machine wash in warm water with mild detergent and dry on low setting

COST: Inexpensive to moderate—very inexpensive compared to wool

USES: Blankets, carpet, rugs, upholstery, some draperies

**POLYESTER (THERMOSETTING PLASTIC)--MANUFACTURED SYNTHETIC**

SOURCE: Synthetic polymer ester of substituted aromatic carboxylic acid

WHEN BURNED:

Ignites quickly, melts, drips, forms a hard almost clear residue  
Black smoke, bright orange flame

CHARACTERISTICS:

+Very durable, retains color very well, resists wrinkles, retains shape  
-Nonabsorbent, generates static electricity, soils easily

CARE: Machine wash in warm water, dry on low setting, may be dry cleaned

COST: Inexpensive

USES: Bedspreads, blankets, carpeting, draperies, mattresses, sheets, tablecloths, upholstery

**OLEFIN (PROPYLENE AND ETHYLENE)--MANUFACTURED SYNTHETIC**

SOURCE: Long-chain polymer of ethylene, propylene or other olefin units

WHEN BURNED:

Burns slowly, melts  
Black smoke, bright orange flame

CHARACTERISTICS:

+Very strong, resistant to abrasion  
-Shrinking, chemicals and oils will cause stains

CARE: Machine wash, dry on low setting, do not iron

COST: Very inexpensive

USES: Awnings, carpeting, outdoor furniture, upholstery

**VINYL (THERMOPLASTIC RESIN)--MANUFACTURED SYNTHETIC**

SOURCE: Vinyl chloride, long-grain polymer

WHEN BURNED:

Melts, self-extinguishes

CHARACTERISTICS:

+Imitates leather (available in many colors and textures)  
-Splits, difficult to repair

CARE: Mild soap and water

COST: Low to medium

USES: Upholstery, wall coverings, table coverings

Other fibers such as saran, fiberglass, latex, and metallic that are not always available nor commonly used have been omitted.