

Determining Fiber Content with the Burn Test



As crafters, many of us take advantage of special sales on fabrics and yarns. Sometimes the fiber content of these specials may not be known.

To determine the fiber content without special chemicals or microscopes, the "burn test" is a simple, non-technical method to determine the fiber content of an unknown fiber.

WARNING - USE CAUTION. This method does involve an open flame and an unknown factors of how fast and how the yarns/threads will burn. Be sure to work in a well ventilated area and over a nonflammable surface. Have a container of water adjacent to the work area. Some fabrics will ignite and melt. The result is burning drips which can adhere to fabric or skin and cause a serious burn.

You will need:

- the fiber in question
- a pair of tweezers
- an igniter (match, lighter, etc.)
- a non-flammable work surface
- container of water
- catch container (something that will not burn such as an old tin can, a glass or metal baking dish, etc.)

1. To identify the fiber content of an unknown piece of fabric, cut off a piece of the fabric about 1" to 1-1/2" long by 1/8"-1/4" wide. To identify the fiber content of an unknown yarn, cut off a piece of the yarn about 1" to 1-1/2".

2. With the tweezers, hold the fibers over the catch container

3. With the match or lighter, set the fiber on fire and watch how the fiber reacts to the flame, the smell or odor of the smoke, and the appearance of the ash. Compare your observations to the chart below.

Note: If the fabric/yarn is a blend or if the fabric/yarn is treated (sizing or finishes), the burn test will product unreliable results.

Burns & Non Self-Extinguishing	Burns & Chars	Burning Paper or Leaves	Soft, Lacey & Gray Ash	Linen, Juts, Hemp
Burns & Non Self-Extinguishing	Burns & Chars - Yellow to Orange Steady Flame - Slow Burning Ember	Burning Paper or Leaves	Soft, Lacey & Gray Ash - Easily Crushed	Cotton, Ramie
Burns & Non Self-Extinguishing	Burns & Chars - Fast Orange Flame - Ember Will Glow After Flame Removed	Burning Paper or Leaves	Soft, Lacey & Gray Ash - Almost No Ash	Rayon

Burns & Non Self-Extinguishing	Burns & Chars - Yellow to Orange Steady Flame	Burning Paper or Leaves	Soft, Lacey & Black Ash	Linen
Burns & Non Self-Extinguishing	Burns & Melts (Sizzles) - Flickery Flame - Will Burn After Flames Is Removed	Vinegar or Burning Wood Chips	Drips and Leaves Hard, Black, Bead	Acetate, Triacetate
Burns & Non Self-Extinguishing	Burns & Melts, White-Orange Tip, No Smoke	Burning Meat	Hard, Black, Irregular Bead	Acrylic (Acrylonitrile)
Burns & Non Self-Extinguishing	Burns & Melts	Tumeric	Soft, Black, Irregular Bead	Acrylic
Burns & Self-Extinguishing	Burns Briefly & Chars	Burning Hair or Feathers	Soft, Gray Bead, Easily Turns to Powder When Crushed	Silk
Burns & Self-Extinguishing	Burns Briefly & Chars - Orange Flame - No Smoke	Burning Hair or Feathers	Dark, Irregular Ash, Turns to Powder When Crushed	Wool, Cashmere, Mohair, Alpaca, etc.
Burns & Self-Extinguishing	Burns Briefly & Melts - Blue Base & Orange Tip, No Smoke	Burning Celery, Burning Plastic	Hard, Gray or Brown Bead	Nylon
Burns & Self-Extinguishing	Burns Briefly & Melts	Burning Asphalt	Hard, Tan Bead	Olefin
Burns & Self-Extinguishing	Burns Briefly & Melts	Sharp, Acid Chemical	Hard, Black, Irregular Bead	Modacrylic
Burns & Self-Extinguishing	Burns Briefly & Melts	Sweet, Fruity Chemical	Hard, Black, Irregular Bead	Vinyon
Burns & Self-Extinguishing	Burns Briefly & Melts - Orange, Sputtery Flame - Black Smoke	Sweet, Fruity Chemical	Drips and Leaves Hard, Black, Round Bead	Polyester
Will Not Burn				Fiberglass, Asbestos, Metal

** Non Self-Extinguishing means the test fabric/yarn does not put itself out and you must dip it into water to extinguish the flame. Self-Extinguishing means the test fabric/yarn extinguishes itself.

