

The burn test

Burning a swatch is a simple way to test any fabric's fiber content. Here's how to burn and read the ashes for 10 common fiber types. You can usually immediately detect the presence of a synthetic in the ash of a fabric that appears to be all natural. Synthetic fibers, except rayon and Tencel (which are derived from cellulose), react differently from natural fibers: They melt, most turning into a hard bead. Natural fibers all leave a soft or crushable residue.

Adapted from Threads no. 81, "Fabric Lovers Always Carry a Flame," by Mary Elliott and Elaine Zarse.

FIBER	APPROACHING FLAME	IN FLAME	REMOVED FROM FLAME	ODOR	ASH
Cotton	Scorches; ignites quickly	Burns quickly; yellow flame	Continues to burn rapidly; has afterglow	Burning paper	Light and feathery gray ash; ash is black if mercerized
Linen	Scorches; ignites quickly	Burns less quickly than cotton; yellow flame	Continues to burn	Burning paper	Light and feathery gray ash
Rayon, Tencel	Scorches; ignites quickly	Burns more quickly than cotton; bright yellow flame	Continues to burn rapidly; has no afterglow	Burning paper	Light and feathery gray ash
Silk	Smolders and curls away from flame	Burns slowly; sputters	Burns with difficulty; ceases to flame	Burning hair	Round, shiny black bead; easy to crush
Wool	Smolders and curls away from flame; ignites slowly	Burns slowly with small flickering flame; sizzles and curls	Ceases to flame	Burning hair; stronger odor than silk	Crisp, dark ash; round, irregular bead; easy to crush
Nylon	Fuses (melts without burning) and shrinks away from flame	Melts, then burns slowly	Flame ceases and dies out	Celery	Round, hard, grayish bead; won't crush
Polyester, poly fleece	Fuses and shrinks away from flame	Melts and burns slowly	Burns with difficulty	Chemical	Round, hard, black bead; won't crush
Acetate	Fuses away from flame; turns black	Blazes and burns quickly; sputters, melts, and drips like burning tar	Continues to melt and burn	Vinegar	Hard, black ash; irregular bead; difficult to crush
Acrylic	Fuses and shrinks away from flame	Flames rapidly; sputters and melts	Continues to melt and burn	Chemical	Irregular, hard, black bead; won't crush
Spandex	Fuses and shrinks away from flame	Melts and burns	Continues to melt and burn	Sharp, bitter	Soft, sticky, gummy

TEST FAMILIAR FABRICS FIRST

We suggest you make a copy of this chart for your sewing room. Start with some tests on fabrics that you know. Compare the results to the predictions on the chart. This is also a good way to get a feel for how blends burn. Blended fibers react individually as predicted, but the combined results may not obviously match anything on the chart.

A small tin can hold a complete burn test travel kit: small scissors, tweezers, and butane lighter.

