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## Know Your Fabric: How to Do a Burn Test for Fiber Content

By Christine Haynes

what the fabric is made of – cotton, polyester, silk, etc – but what if you gathered your fabric in less traditional ways? I love scouring thrift stores, flea markets and all kinds of off beat spots for great fabrics, but it's nearly impossible to be 100% sure what the fabric is made of.

**But, there's a way to find out – a burn test! Here's how to do it at home.**



Many sewers don't realize that you can actually set your fabric on fire, and by the way the fabric reacts to the flame, determine what the content of the fabric is. Crazy cool, right? Yeah, it's awesome for the knowledge, and let's be real, it's kinda fun to burn the fabric too!

### Safety tips

Of course, I would be irresponsible if I didn't mention that you should be incredibly careful and do these burn tests in well-ventilated areas, and only on fire resistant surfaces, like outside in your driveway or on your patio or balcony. Finding out the fiber content will be a whole lot less fun if you've also burned your house down! So seriously, be careful.

### What the burn test reveals

While a burn test will tell you a lot, it won't tell you everything. For example, blends can be really fickle and it might be hard to know exactly what blend it is. The main thing that a burn test will determine is whether the fabric is made of natural fibers or synthetic fibers. It will likely tell you more than that, but it also might not.

**So how do you do a burn test exactly?**

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- First, cut off a small amount of the fabric, from a discreet place like a corner.
- Next, get yourself a lighter or matches and something to hold the fabric that is fireproof, like a long pair of tweezers or pliers.
- Find something to place the fabric in while burning. I like to use something fire proof and disposable, like a tin container from the grocery store. Try a pie plate, a roasting pan, or something similar so you can contain the test.
- Once you have everything ready to go, place the fireproof container on a fire resistant surface outdoors.
- Very carefully hold the fabric with the tweezers or pliers in the pan.
- Carefully light the match or lighter and hold it up against the edge of the fabric. How the fabric reacts will tell you what it's made from.

**The list below will help you determine with an educated guess what the fabric is made of.**

#### **Cotton**

The fabric will burn fast and the fire will singe the fabric. The flame will have a yellow glow and after the lighter is removed, the fabric will continue to burn quickly with an afterglow. The smell will be neutral, like burning paper, and the ashes left behind will be light and gray in color.

#### **Linen**

The fabric will burn quickly and the flame will singe the fabric, just like with cotton. The main difference is that the flame will burn slower than cotton and will have less of an afterglow. The smell and ash will be just like that of cotton.

#### **Rayon**

As rayon is a natural fiber made of cellulose, it will burn fast and singe quickly like cotton and linen. Due to its lightness, it will burn even faster than cotton and the flame will be a brighter yellow. Even once the fire is pulled away, the fabric will burn very quickly; though unlike cotton and linen, there will be no afterglow. Like linen and cotton, the smell will be natural and the ash will be light and gray.

#### **Silk**

When silk is held to a flame, the fabric will curl away from the fire and will smolder instead of igniting quickly. The fabric will burn slowly and will have trouble staying lit, and once the flame is pulled away, the fire will go out. The smell will be more like burning hair, because it is part of an animal, and not of a plant.

The ash will not be like ash really, rather it will be more like small black beads of burned fibers. To be fully sure if the fabric is 100% silk, instead of a burn test, place it in a small glass container with bleach. If overnight the fabric completely dissolves and is gone in the morning, it's silk! Crazy, but it works.

#### **Wool**

Like silk, wool is a natural fiber that comes from an animal, so it too curls away from the flame and lights on fire slowly. It too will have trouble staying burning after the fire is pulled away and the wool will smell like burning hair, as it is in fact, burning animal fibers. The smell will be slightly more intense than silk. The ash left behind will be dark, with some beads of burned fibers.

#### **Polyester**

Because polyester is a synthetic fiber, it's going to behave very differently than those listed above. The fabric will actually melt when hit with a flame, burn slowly, and do its best to repel the fire. It won't actually stay burning once the fire is removed from the fabric, and as you can imagine, the smell will be strong and have a toxic chemical odor. The ash left behind won't be ash at all, rather it will be hard melted black beads of plastic that won't break easily.

#### **Nylon**

Similar to polyester, nylon will have nearly all the same reactions, but it will melt more and burn less. The smell will actually be less intense, and like polyester the burning will leave behind hard black melted beads instead of burned ash.

#### **Spandex**

This synthetic fiber will also shrink away from the fire and will melt and burn slowly, both under and away from the actual flame. The ash left behind is a sticky soft goo, and less like polyester's hard melted beads.

#### **Acetate**

The behavior of acetate will be similar to the other synthetics above, but the main difference is that it will melt and drip like a chemical liquid. The smell will be pungent and after it cools, the ash left behind will be like black melted beads of plastic.

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