UNDERSTANDING THE BURN TEST

Burn testing is the best way to identify the fiber content of a carpet or fabric.

Equipment Needed: Use a butane lighter, an ashtray or any fireproof container, a pair of scissors, and a paper clip or tweezers to hold the burning piece of fabric.

FIBER TYPE	FLAME (COLOR ACTION SMOKE)	ODOR	ASH (SHAPE COLOR HARDNESS)	CHEMICAL I.D.
WOOL	Orange Sputters None	Burning hair	Irregular Black, crumbles easily to a fine powder	Choline bleach or Sodium Hydroxide (lye). Strong acids will not dissolve
RAYON	Orange	Burning paper	No ash, no bead, slow burning ember, Rapid burning flame	Acetone & strong alkalines will not dissolve. Sulfuric acid will dissolve
COTTON	Slow burning ember, flame yellow or amber	Burning paper	Gray fluffy ash	Strong acids will dissolve, Stronger when wet, usually safer with alkalines (mild)
ACETATE	Sizzling	Acetic acid	Black bead	Acetone and acetic acid will dissolve. Not effected by alkalines
ACRYLIC	White-Orange Sputters Black	Harsh, acid charred meat	Irregular Black Hard Crust	Nothing effects it!
NYLON	Blue base and orange tip Even None	Celery or sealing wax	Reounded and beadlike Gray-brown to black hard	Dissolves in Formic acid
POLYPROPYLENE OLEFIN	Blue base and orange tip Even None	Asphalt or burning paraffin	Rounded to beadlike Light gray to brown Hard	Dissolves in dehydronpthalene
POLYESTER	Orange Sputters Black	Sweet, over ripe fruit	Rounded Shiny black Hard	

Procedure: Cut a clipping of carpet or fabric (a couple of tufts will normally be sufficient). Be sure to take it from an inconspicuous place. Hold the fiber over the ashtray with the tweezers and light it with the butane lighter. Observe its characteristics as it burns. The following chart gives you the characteristics of the different fibers. It also contains chemical and physical tests that will help you identify different fibers.

Short Cut To Fiber Identification: A common misconception is that the burn test takes a long time to perform. This is not the case. The best use of the burn test is to identify a category of fiber rather than the fiber itself. The categories of fibers are:

Natural Fibers - Those occurring in nature.
Protein - Those that came from animals such as wool and silk.
Cellulosic - Those that come from plants, such as cotton, linen and jute.
Synthetic Fibers - Man Made. (Nylon, Polyester, Acrylic, Olefin)
Synthetic/Natural -We have two fibers in this category: Rayon & Acetate

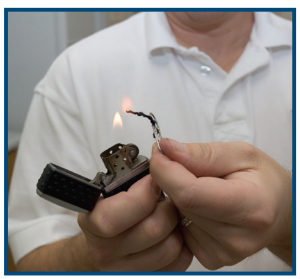
Rayon and acetate fibers are manufactured by taking natural fibers, dissolving them, then by reconstitution, forming them into a fiber again. When you burn these two fibers they will act like and should be cleaned the same as a cellulosic fiber.

The short cut is this. Once you have determined the category of the fiber, all of the fibers within the category are cleaned with the same method. You will find the cleaning methods for carpet and upholstery in this catalog along with the appropriate chemicals.

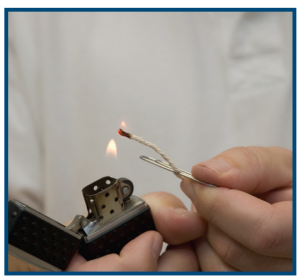
Step 1 - Burn the fiber and notice the ash. If it is a powdery ash that crumbles as you rub it between your fingers then it is a natural fiber. If the ash melts and forms a hardened bead then it is synthetic.

Step 2 - Notice the odor. If the ash indicates that it is a natural fiber, you need to know if it is Protein or Cellulosic. The protein fibers smell like burning hair and the cellulosic smell like burning paper or camp fire.

This simple test takes about one minute. It is well worth doing to make yourself a better cleaner and to instill customer confidence.



Burning synthetic fibers. The fibers begin to bead.



Burning natural fibers. The fibers turn to ash.

The natural fibers have turned to ash.

Notice the difference in smell?