

FIBRE BURN TEST CHART

courtesy of Griffin Dyeworks & Fiber Arts

<http://www.griffindyeworks.com/store>

Fibre	Fibre type	Flame reaction	Bead	After flame is removed	Ash	Odor	Smoke/Fume
Cotton	Cellulose Fibre	Burns quickly, bright flame, may flare	None	Continues to glow	Fine, soft gray	Burning paper	Gray/white smoke
Hemp	Cellulose Fibre	Burns quickly, bright flame	None	None	Fine, soft gray	Leaves or wood	Smoke, no fumes
Flax (Linen), Jute, Ramie	Cellulose Fibre	Doesn't shrink from flame	None	None	Fine, soft gray	Leaves or wood	Smoke, no fumes
Raycon, Tencel	Manufactured cellulose fibre	Little/no flame, may flare, does not melt	None unless there is a fabric finish	May glow a bit longer than cotton	Soft gray	Burning paper	Slight fume hazard
Silk	Protein fibre	Burns slow, curls from flame, slight charring	Dark bead but easily crushed	Self-extinguishing	Gritty ash, fine powder	Burned hair or charred meat	Little or no smoke, no fume hazard
Wools : Alpaca, Cashmere , Llama, Guanaco, Mohair, Sheep	Protein fibres	Burns slowly, sizzles, curls from flame	Brittle, dark bead easily crushed	Self-extinguishing	Harsh ash	Strong odour, burned hair or feathers	Dark smoke; moderate fume
Acetate, Triacetate	Manufactured fibre	Burns quickly can flare	Very hot, hard, brittle, uncrushable	Melts into very hot bead DRIP DANGER	No ash	Vinegar or burning pepper	Black smoke; fume hazard
Nylon, Polyimides	Manufactured fibre	Quick burning, shrinks from flame , melts	Hard grayish, uncrushable	Self-extinguishing, DRIP DANGER	No ash	Celery	Fume hazard
Polyester	Manufactured fibre	Quick burning, shrinks from flame – flares	Hard dark round bead not easily crushed	Not always self-extinguishing	No ash	Slight sweet chemical odour	Black smoke; fume hazard
Acrylic, Modacrylic , Polyacrylic	Manufactured fibre	Flares at match touch, shrinks away, burns fast, sputters	Hard, dark irregular shape	Continues melting after flame is removed; self-extinguishing	No ash	Strong acrid, fishy odour	Black smoke; fume hazard

NOTES

SPANDEX™: Burns and melts, not self-extinguishing. Strong chemical odor. Leaves soft, sticky residue in black ash. Not self-extinguishing. Nearly impossible to color with plant dyes. DRIP DANGER!

GLASS, FIBREGLAS™: Glass-like synthetic fibre used for draperies, or to make boats. Does not take dyes. Slivers cause severe, long-lasting allergic reactions. If testing flame-resistant fiber, it should not melt under match flame.

VINYL: Burns and melts, shrinks away from flame. Chemical or waxy odor. Hard, tan bead. Not self-extinguishing.

BLENDS: Determining synthetic fibers is not always possible. Blends (linen-wool, cotton-polyester, etc) will not burn according to the chart.

NEW FIBERS: This list has not yet been updated with newer manufactured 'natural' fibers such as tencel, soy silk, inego, etc. These fibres offer new burn-test challenges because they may also have been treated with finishes.

COTTON, HEMP, JUTE, FLAX, RAMIE: Burn test may not distinguish between cotton and other cellulose fibers

SILK: If it has been weighted (Asian process) or has added finishing chemicals, silk may react more like synthetic fiber

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