



Company Name: _____ Job Site Location: _____

Date: _____ Start Time: _____ Finish Time: _____ Foreman/Supervisor: _____

Topic 72: Flammable Clothing

Introduction: When clothing catches fire, the burn injuries are often severe and may cause death. By looking at a fabric you cannot tell if it is flame resistant or flame retardant, so you must look for a label. If there is no label claiming flame resistance, you must assume the textile will burn rapidly. **Make sure to read and understand the terms used on clothing labels:**

(A) If it says:	It means:	(B) If it says:	It means:	(C) If it says:	It means:
Flammable	Clothing will burn readily.	Fireproof	Clothing will not burn.	Fire resistant	Clothing will be slow to ignite, may burn more slowly, may self-extinguish when the heat source is removed.
Inflammable		Non-combustible		Fire retardant	
Combustible		Non-flammable		Flame resistant	
				Flame retardant	

- Natural cellulosic fibers (cotton, linen), manufactured cellulosic fibers (acetate, lyocell, and rayon), and synthetic fibers (acrylic, nylon, lastol, olefin, polyester, and spandex) can burn quickly when ignited, but they behave somewhat differently as they burn.
- Generally cellulose fibers burn with a yellow flame, light smoke, and have glowing embers; like a fireplace log, only much faster.
- Synthetics may catch fire quickly or shrink from the flame initially, but ultimately, they will sputter, flame, and melt to the skin or the flaming melt will drop to the floor.
- Wool and silk are protein fibers and are difficult to ignite. They may self-extinguish, but this varies depending on the closeness of the weave or knit (fabric density) and other finish treatments. Flame proof fibers are generally not used in ordinary wearing apparel.
- Fabrics that are a blend of two or more fibers do not burn in the same way as either fiber. Sometimes, blends are more dangerous than either fiber. For example, fabrics of 50 percent cotton and 50 percent polyester tend to burn longer than a similar fabric of either cotton or polyester.

Burning characteristics of fibers from least safe to safest:

Cotton/linen: Burns with a hot, vigorous flame, light colored smoke, and leaves red glowing ember after flaming stops. Does not melt or draw away from the flames.

Rayon/lyocell: Burns similarly to cotton and linen, except that it may shrink up and become tighter to the body.

Acetate: Burns with a rapid flame and melts when burning. May melt and pull away from small flames without igniting. Melted area may drip off the clothing carrying flames with it. When flames have died out, the residue is a hot, molten plastic, and is difficult to remove from any surface.

Acrylic: Burns similarly to acetate, except that it burns with a very heavy, dense, black smoke. It drips excessively.

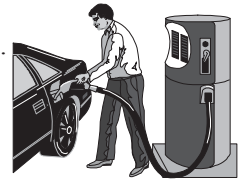
Nylon, lastol, olefin, polyester, and spandex: Burns slowly and melts when burning. May melt and pull away from small flames without igniting. Melted area may drip off clothing carrying flames with it, but not to the extent of acetate and acrylic. Residue is molten and hot and difficult to remove. It may self-extinguish.

Wool and silk: Burns slowly and is difficult to ignite (especially in winter garments). It may self-extinguish.

Modacrylic and saran: Burns very slowly with melting. May melt and pull away from small flames without igniting. Self-extinguishes.

Aramid, novoloid, and vinyon: Chars, does not burn.

- The way a fabric is made (knit, weave, lace, etc.) affects how it burns. Heavy close fabrics ignite with difficulty and burn more slowly than light, thin, or open fabrics. Summer weight clothing is more likely to catch fire than winter weight fabrics.
- Fabrics with more of the fiber surface area exposed to air have more oxygen available to support burning and therefore burn more easily. Fabrics with a napped or brushed surface can catch fire easily because of the fiber surface exposed to oxygen in the air.
- Close-fitting clothes are less likely to catch fire than loose-fitting ones. Clothes that fit closer to the body are less likely to stray (or get blown) into a flame source than clothes with a loose, flowing design.



Remember: Read the labels on the clothes you wear. If your clothes catch on fire; **STOP, DROP, and ROLL** to smother the flame.

Work Site Review

Work-Site Hazards and Safety Suggestions: _____

Personnel Safety Violations: _____

Employee Signatures: _____ *(My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)*

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Foreman/Supervisor's Signature: _____
These guidelines do not supercede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.