



City Safe

A Guide To Assist In Training
Employees About:

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FIRE SAFETY

Inside this issue. . .

| | |
|----------------------------------|------------|
| Fire Prevention | Page 2 |
| Fire Safety Checklist | Page 3 & 4 |
| Proper Use of Fire Extinguishers | Page 4 & 5 |

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City Safe is a publication of the League of Kansas Municipalities and the Kansas Municipal Insurance Trust for the purpose of educating and informing cities about loss control methods and risk management. Contents herein are not intended to provide specific legal or medical advice. Readers should seek advice on specific concerns from a qualified professional.

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FIRE PREVENTION

Smokey Bear always says: "Only you can prevent forest fires." This is true, and KMIT would like to also add that: "Only you can prevent office fires." How often does your city perform an assessment of fire risk to your city buildings and office space? Chances are, that it is not often enough. Casual observation might catch some of the obvious potential hazards; however, what about those "not-so-obvious" hazards?

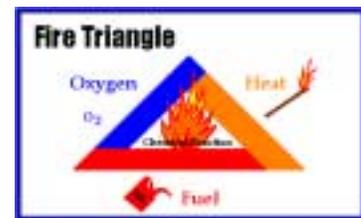
Perhaps some basics about fire and how it starts and perpetuates itself is necessary before getting too deep into this topic. Oklahoma State University has one of the premiere fire training schools in the country. Here is a portal that provides links to all things related to preventing fires:

<http://www.pp.okstate.edu/ehs/LINKS/Index.htm>

Additionally, the Kansas State Fire Marshal's Office is another great reference. It's web address is:

<http://www.accesskansas.org/firemarshal/>

Fires require: oxygen, a heat source, and fuel (commonly referred to as the "fire triangle") as well as a chemical, exothermic reaction that IS the fire. Without any of these four items, a fire will cease to burn. So, the key to preventing fires is to keep the items in the fire triangle separated. When a fire breaks out, it presents many hazards to office workers. Among these are: burns, oxygen depletion and smoke inhalation, toxic affects from the gaseous combustion of products, and structural failure of the building itself.



New buildings can be designed to address many safety issues that often present hurdles in older buildings. These include: protection through insulation, integrity, and stability of the structure itself, as well as more viable and direct means of escape that are free from obstruction. Other issues related to the design and use of buildings and equipment housed therein include:

1. Use of equipment that generates less heat;

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2. Proper maintenance of equipment to reduce heat caused by friction from worn parts;
 3. Proper ventilation of equipment that generates heat;
 4. Providing sufficient electrical outlets to prevent overloading of circuits;
 5. Confining smoking to designated areas (like outside and away from combustible materials);
 6. Providing safe storage of all combustible material and when combustibles must be used, ensuring that they are used properly and in minimal amounts necessary to be effective;
 7. Use of suitable waste containers for combustible material;
 8. Using the right type of fire extinguisher for the type of fire that is likely to arise in a given area (see fire extinguisher use article in this issue);
 9. If at all possible, consider the feasibility of an automatic sprinkler system to control the spread of a fire beyond its point of ignition;
 10. Consider the needs of disabled workers and how they will exit the building, or hearing impaired workers and how they will be alerted to an alarm;

As mentioned above, fires can be prevented by removing one or more of the three elements in the fire triangle. Once a fire starts however, a fire extinguisher should be used to combat the fire. Have your fire chief regularly check fire extinguishers to ensure that they are properly charged. Train your employees to know where the fire extinguishers are in all of your facilities. Keep them in easily seen and easily accessible places. Having these issues as part of a broader fire prevention plan can help to keep not only your city's property safe, but more importantly your employees safe as well. In addition to these issues, a fire prevention plan should include training of city employees on what to do in the event of a fire. Have an evacuation drill and practice it periodically. Define a meeting place where everyone is to meet in the event of a fire and count heads to be sure everyone is accounted for.

Here is a FIRE SAFETY CHECKLIST. How many of these things does your city do?

1. Are combustible materials stored and labeled properly?
2. Are combustible materials used properly?
3. Are appropriate waste containers provided?
4. Is trash regularly removed from all city facilities?

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5. Is the electrical system properly designed and maintained? Was it properly installed?
 6. Is adequate ventilation provided for machinery and equipment?
 7. Is equipment put away at night or left lying around?
 8. Are the designated smoking areas outside or inside?
 9. Are there adequate fire precautions in place and is staff trained on them?
 10. Are fire drills practiced on a regular basis?
 11. Do fire and other emergency plans exist and has staff been trained on them?

All of these are CRUCIAL to protecting life and property in your city. If you have any questions about this article, please do not hesitate to contact your local fire department. They will be able to provide you with the best assistance in this arena.

PROPER USE OF FIRE EXTINGUISHERS

The keys to successfully using a fire extinguisher are knowing WHAT is burning, and using the proper extinguisher. Extinguishers are meant to stop fires in their early stages – before they become raging infernos. If you believe a fire is too large to be put out by an extinguisher, then chances are that it is, and that the fire department should be called.



Class A



Class B



Class C

That being said, there are four classifications of fuels. They are defined as Classes A, B, C, and D. Class A fuels are wood, paper, cloth, trash, and plastics. Class A fires generally leave ashes behind. Class B fires burn using flammable liquids (or gases) like gasoline, oil, grease, and acetone. Class C fires involve electrical equipment that is plugged in to a circuit. Class D fires involve metals like potassium, sodium, aluminum, and magnesium. Chances are, you will not come into contact with these types of fires, but if you do, be aware that special extinguishing equipment is required to fight such a fire. Fire extinguishers should say what types of fires they are designed for. Chances are, most extinguishers are rated for Classes A, B, and C.

There are different types of fire extinguishers and the type of extinguisher you should have in your facilities should be based on the types of fires that are likely to start in your facilities. Simple water or APW (air pressurized water) extinguishers can be used on Class A fires only. Using them on Class B fires will cause the



fire to spread and using them on Class C fires puts you at risk of electrical shock. If you **MUST** use an APW extinguisher on a Class C fire, the appliance or piece of equipment **MUST BE UNPLUGGED** first.

A CO₂ extinguisher contains highly pressurized carbon dioxide and is used on Class B fires. When it is used, the carbon dioxide is expressed from the extinguisher and is very cold. It works by displacing oxygen and cooling the fuel – two sides of the fire triangle. A carbon dioxide extinguisher may not work on a Class A fire because it may not be able to displace enough oxygen, or cool the fuel enough. This can cause the fire to potentially re-ignite.

A dry chemical (DC) extinguisher is probably the type of extinguisher you will likely find in your work areas. DC extinguishers may be rated for A, B, and C fires, or for Classes B and C fires only. These work by coating the fuel(s) with a thin layer of dust, which effectively separates the fire from the fuel.

If you are put into a situation where you need to use an extinguisher, keep in mind that you must know what is burning. This is where having a DC extinguisher comes in quite handy. Knowing what is burning, and knowing that the fire has not grown too large for the extinguisher is important. Assuming both of these are true, pull the pin on the extinguisher, aim the extinguisher at the base of the fire – NOT at the flames, and squeeze the trigger. As the extinguishing agent is forced from the bottle, move the nozzle back and forth from one end of the fire to the other, until the fire is out. You should start from a safe distance away, and move slowly towards the fire as the flames allow you to. Be sure you stay on site until you are certain that the fire is out, and call the fire department. We want to reiterate this point: If you do not feel that you can safely put the fire out with an extinguisher, then **DON'T ATTEMPT TO DO SO!** Call the fire department and let them do their job.



All of this information is absolutely useless, if in a real life situation, you panic and forget it. **THEREFORE**, KMIT suggests that you visit with your fire department and try to set up some practice time on using fire extinguishers. It is vitally important that everyone in the office knows what it is like to use a fire extinguisher so if the time comes that you have to use one, you are not taken by surprise – or panic in the “heat” of the moment. . . .no pun intended. We would like to reiterate again, that Oklahoma State University has a wonderful website on Fire Extinguisher Training (among many other fire related topics) from which some of the information in this article came from. It can be found at:

<http://www.pp.okstate.edu/ehs/MODULES/exting/index.htm>

KMIT is asking for your ideas.

We would like to know if you have topics you would like to see covered in CompControl or City Safe.

CompControl provides safety tips, highlights, and trends in the workers' compensation field.



City Safe is a training guide focusing on safety areas in training employees to practice precautionary measures.

If you have a suggestion for a topic, please e-mail your idea to Bret Glendening @ bglendening@lkm.org or Wendy Flowers @ wflowers@lkm.org.

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