



A. B. C. D. Extinguish Fires

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If there's a fire, use a fire extinguisher – but only if:

1. The fire is small and easily contained
2. You have an escape route
3. It's the right kind for the job
4. You know how to use it

Simple, right? But do you know what “small and easily contained” means? Do you know if you have the right kind of extinguishers?

If the fire's the size of an office wastepaper basket, it's the right size for an extinguisher. Leave it alone for thirty seconds, and that fire can double in size. If you can't knock it down within that first minute, you need to get out. If you have a sprinkler system, let your fire suppression system do the job. The sprinkler above that fire won't go off until it heats up to about 155°F, giving you time to get out without getting wet.

Of course, if you can't get to your fire extinguishers in the first few seconds, give up on trying to fight the fire. That's why we complain when fire extinguishers are blocked or used as coat racks. Anything that slows down access allows that fire to spread.

What if you try using the wrong kind of fire extinguisher? Doing so could spread the fire. It could cause an electric shock. It could even make the fire flare up.

If ordinary combustibles such as paper, cardboard, or plastic are burning, a Class **A** fire extinguisher will cool them off enough to quench the fire. Think of **A** for the **A**sh they'll leave.

Burning **B**arrels of flammable or combustible liquids need Class **B** extinguishers. These liquids are usually lighter than water; if you use water on a gasoline or thinner fire, the burning liquid will float on top of the water, making the fire spread wherever the water flows.

Fires carrying **C**urrent – those that involve energized electrical equipment – are extinguished with Class **C** extinguishers. A Class **C** fire extinguisher is nonconductive, so you won't be electrified when you use it. The burning bagel in an unplugged toaster can be put out with a Class **A** fire extinguisher. But if the toaster is plugged in, you need a Class **C**, so you won't be shocked.

The common red fire extinguisher with a gauge is probably an ABC extinguisher, suitable for nearly every type of fire you're likely to have. They're effective, but can leave a corrosive residue. Some shops may also have carbon dioxide (dry ice) extinguishers, equipped with big nozzles. These BC extinguishers stop fires by rapidly cooling materials and by removing

oxygen. They don't leave any residue. Those are good for partswasher or gasoline fires, but not so effective on ordinary paper fires.



None of these work on aluminum or magnesium fires. Water on a fire involving these metals will dissociate into hydrogen and oxygen, just the things needed to create a bright explosion. Carbon dioxide extinguishers aren't much better (carbon dioxide will dissociate to carbon, which can burn, and oxygen, which makes fires burn hotter). Instead, a Class D fire extinguishing agent or a big pile of dry sand is needed. D fire extinguishers, usually yellow in color, could be pressurized, like the standard red extinguisher. Or they could just be a bucket of the extinguishing agent.

If you're machining aluminum or magnesium, you should have a Class D fire extinguisher on hand, because the scraps and metal dust can set on fire easier. Large blocks or panels of those metals, such as body panels or engine blocks, don't ignite readily, simply because oxygen can't get to the metal. (Compare these to sawdust and a block of wood. Sawdust ignites easily. The block of wood takes more effort.) If a truck with an aluminum body catches on fire, the aluminum is more likely to melt than burn. But if the burning vehicle has magnesium parts and you turn a hose on it, those burning parts could suddenly flare up in a burst of white light.

We prefer it if you prevent fires. But if things do go wrong, you want to be prepared. Provide extinguishers, but then make sure that they are easy to get to and fully charged. Brief employees on how to use them, and on when to use them. And instruct employees to get out if they can't fight the fire or as soon as the fire starts to spread.

If you have questions about hand safety, personal protective equipment, hazard prevention, handling worker injuries, or general safety issues, call CHESS at 651-481-9787 or e-mail us at CHESS@chess-safety.com

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