

Fire & Life Safety

FOCUSING ON OFFICE SAFETY

WHERE DO WE GET OUR “FACTS” ABOUT FIRE?

Thankfully, few of us have actually experienced a fire, but those of us who haven't can live through a building fire in the comfort of our armchairs while watching the latest action flick.

Fire portrayed in media is deceiving. Yes, they show flames, but where is the heat and smoke? Directors would have nothing but a dark black screen for their viewers to see instead of their actors.





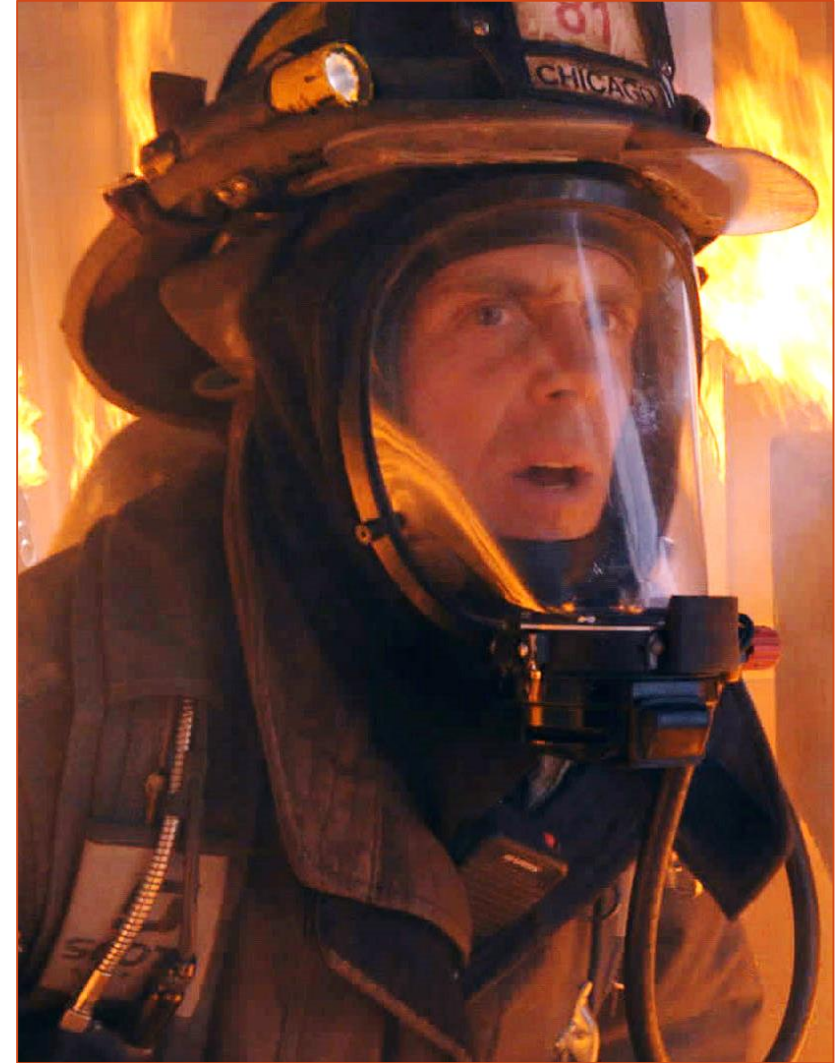
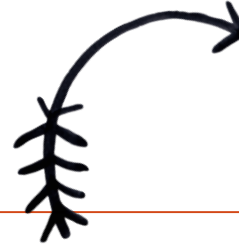
Reality

- Mask with inner breathing cone to protect firefighter in case mask face is cracked.



Hollywood

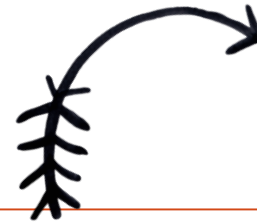
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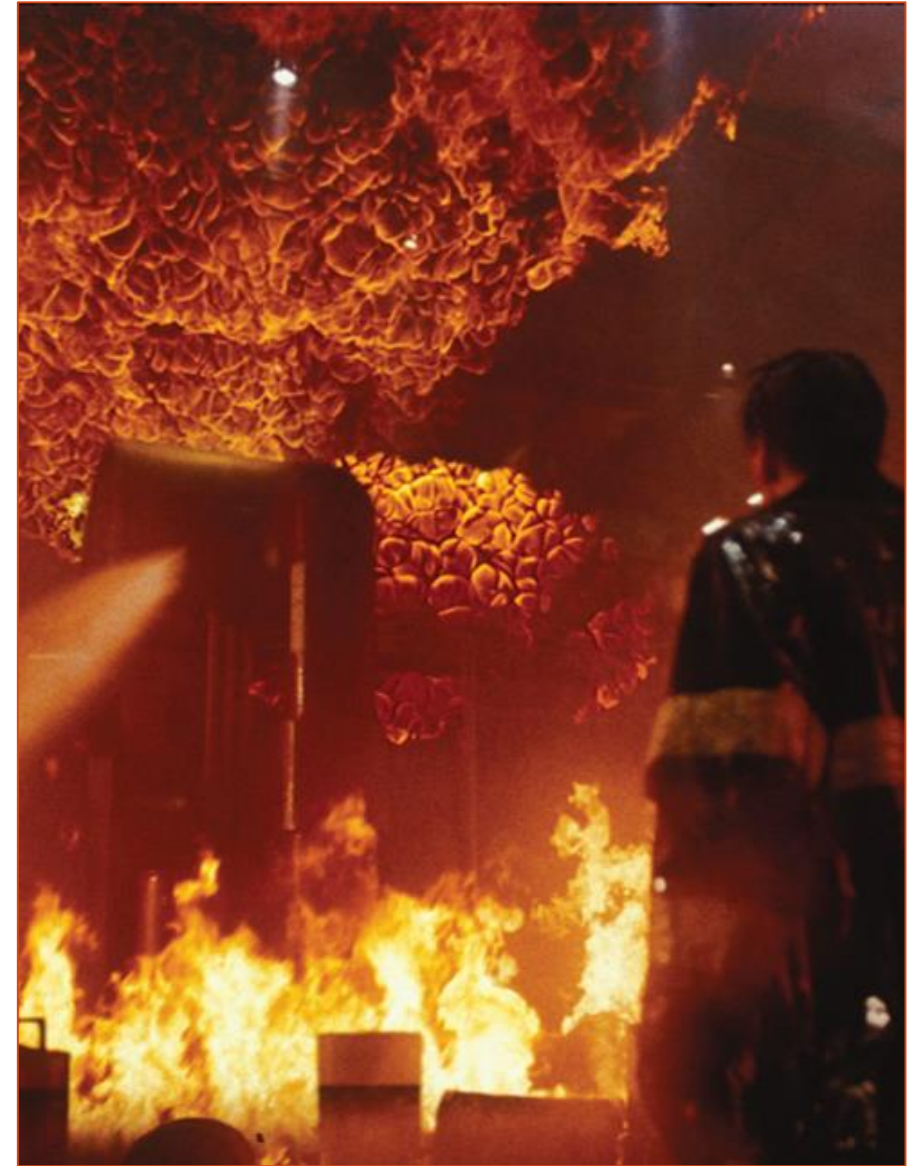
Reality

- Thick black smoke



Hollywood

- Everything is on fire and somehow there is no smoke



Progression of a Fire

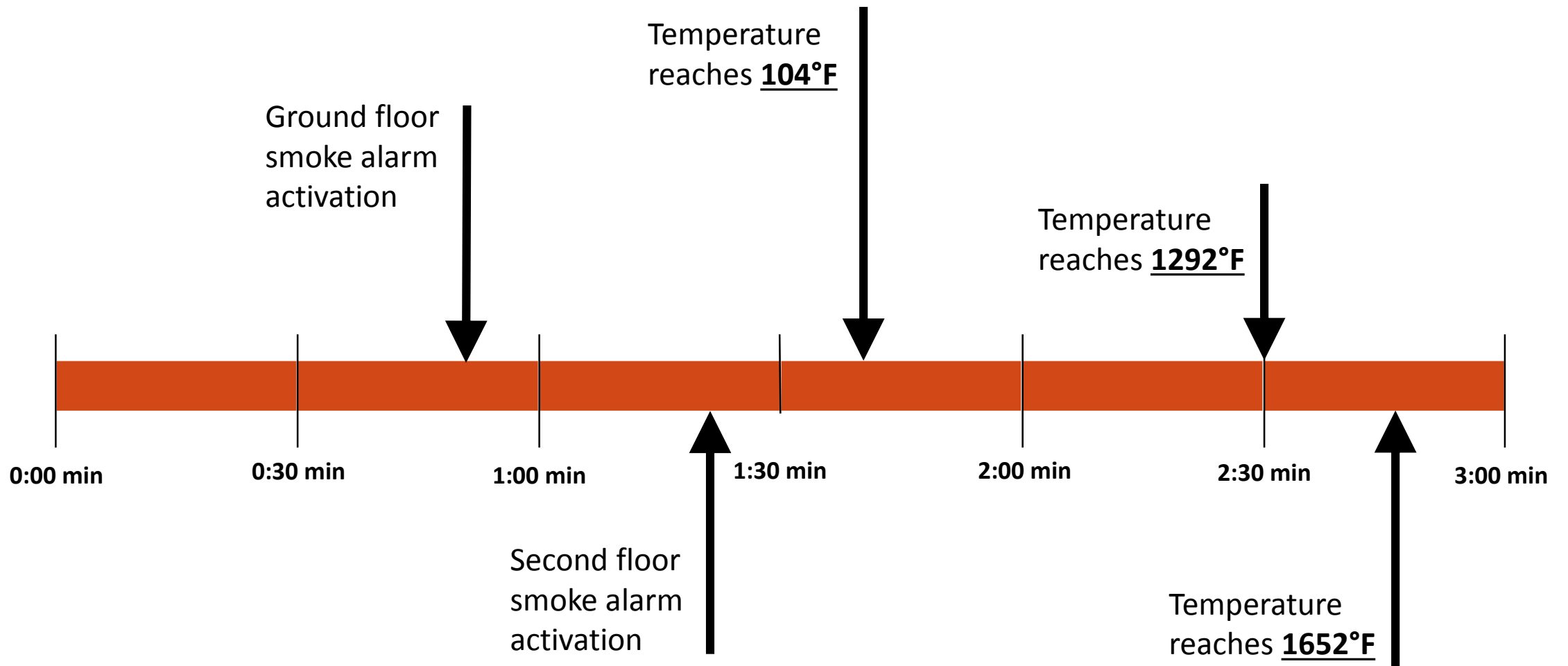
(example)



A fire department recreated a fatal fire that occurred in a duplex home and created a short, educational video entitled *No Time to Spare*. They set a camera and heat sensors within the home to get a better understanding of how the original fire progressed.

Though this course is on Fire Safety in the Office, the furniture, carpet, and decorations in a home are not much different than those we have in our workspaces.

The next page shows a timeline of this recreated fire.



As you can see, within 2 minutes, a fire can produce thick black smoke and temperatures that are not survivable. This is the reason smoke alarms in the home are essential and evacuation when a building fire alarm is activated is imperative.



The main cause of death in structure fires is smoke inhalation as opposed to thermal burns. Smoke is produced much quicker in a fire than heat.

Leading Causes of Fire

IN OFFICES

1. Cooking
2. Heating
3. Intentional
4. Unintentional, Carelessness

2003-2016

| | |
|------------------|--------|
| Average # Fires | 17,707 |
| Average # Deaths | 16 |

IN HOMES

1. Cooking
2. Heating
3. Electrical
4. Unintentional, Carelessness

2003-2016

| | |
|------------------|---------|
| Average # Fires | 376,434 |
| Average # Deaths | 2,684 |

LEADING CAUSES OF FIRE

One would not think of cooking being the leading cause of fires in offices, but then who of us has not burned popcorn in the office microwave?

Preventing Cooking Fires in the Office:

- Never leave cooking unattended – even the microwave!
- Make sure your coffee maker or tea kettle has automatic shutoff.
- If you have a stovetop in your office, never leave any item on the surface – knobs can be bumped on.





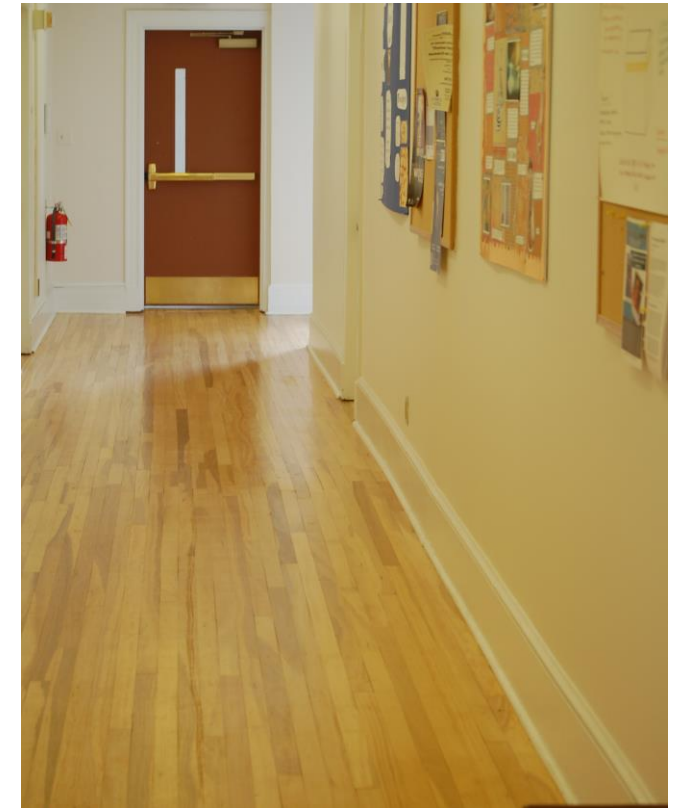
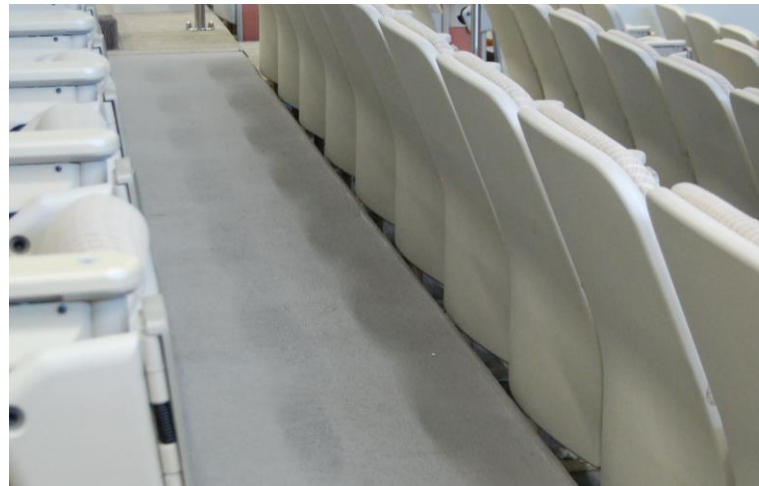
Common Code Violations in Offices

Common Violations

Egress System

All of these pictures represent part of a building's Egress System or Exiting System.

If you think of it in terms of every step you would take from your desk to the point where you leave the building, every part you just traveled is part of that egress system. Interior doors, hallways, corridors, stairwells, aisles, etc. This is why code put so much emphasis on keeping ***all parts*** of this system compliant, ensuring occupants can evacuate in case of emergency.



HALLWAYS, CORRIDORS, & AISLES

These building components have been built as wide as they are for very specific reasons.

- Width calculated to accommodate the maximum amount of occupants that could exit at one time
- There is a minimum width required for ADA accessibility

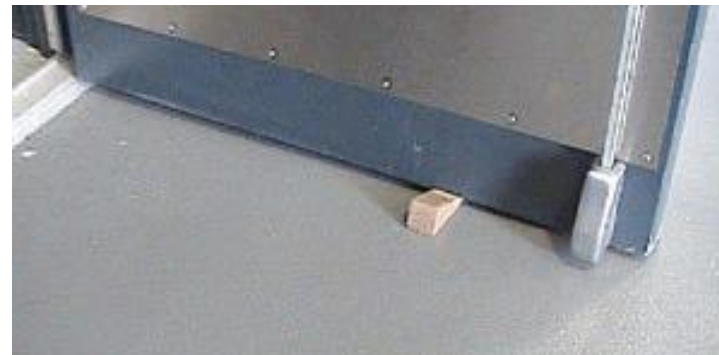
Even though you can see a clear path in each of these pictures, because the width is not clear of tripping hazards, they are in violation. Remember how quickly the fire progressed in the video? You do not want anything keeping you and your coworkers from exiting quickly and safely.



STAIRWELLS

Stairwells are an incredibly important component of the egress system for several reasons.

- They are built to keep fire from breaching through for up to 2 hours
 - The 2 hour fire resistance is only as good as its openings – Doors. If a door has been chocked open then fire and smoke can very quickly spread to and through them. Basically the stairwell becomes a chimney that allows fire and smoke to spread through the building very quickly.
- The pictures on the right were taken after a fire. This is the same door with pictures taken from the unburned side and the burned side. Do you need any more proof that fire doors work if they are maintained properly?
- Do not chock these doors open. They need to remain closed or they can be kept open if attached to a magnetic hold open device that will drop the door with fire alarm activation



STAIRWELLS CONT.

Since the elevators cannot be used once the fire alarm is activated, it is the sole exiting source for upper floor occupants

- This is a protected area for exiting, there can be no items in a stairwell
- Just think about it. What if items that were placed in a stairwell caught fire? You can count that exit out.



Common Violations

Storage

As they say storage is a commodity. We have more items than we have space to put them, and sometimes out of sight out of mind is not the best practice.

Let's take a look at how to store your items in your building within the parameters of the code.



STORAGE HEIGHT

Squeezing a box into that very top space on a shelf is so tempting, but there are two reasons why it is a violation.

1. Sprinklered Building

- As you can see in the bottom left picture, when a fire sprinkler is activated the water sprays out in a cone shape. The purpose of them is for the water spray to cover the top of storage, a goal that is defeated when the storage is above the sprinkler head.
- If the building has a fire sprinkler, storage must remain at least 18 inches below the level of the sprinkler head



STORAGE HEIGHT CONT.

Squeezing a box into that very top space on a shelf is so tempting, but there is a reason why it is a violation.

2. Non-Sprinklered Building

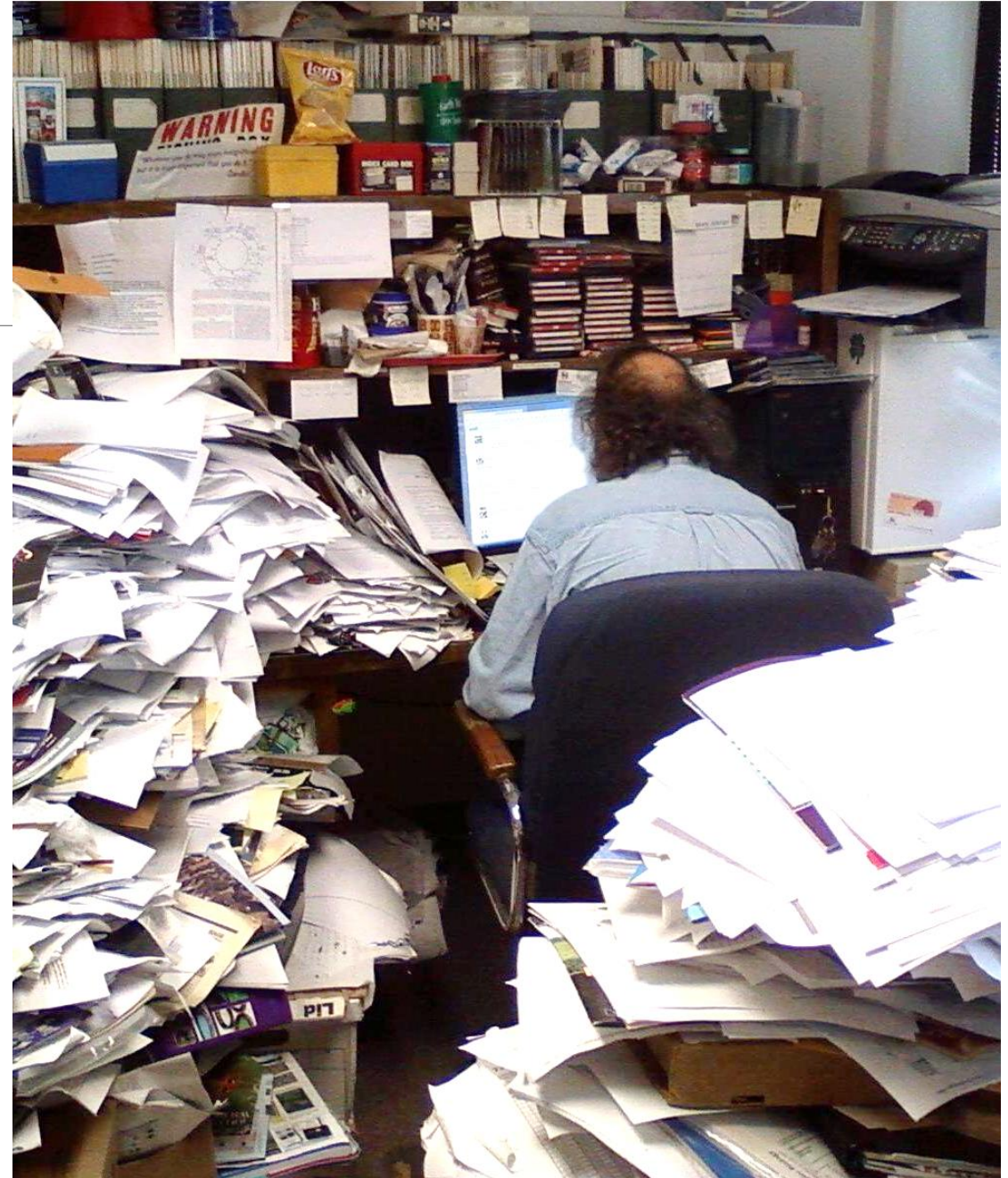
- Since there are no “mini fire hoses” (sprinklers) built into the ceiling of these buildings, storage needs to be arranged for firefighter’s hose streams to reach the top
- Storage must remain at least 2 feet below the ceiling level



GENERAL HOUSEKEEPING

Your workspace is your workspace, but it is also part of a building where others work.

- Combustibles (anything that can burn), cannot be allowed to be accumulated in buildings where it creates a fire hazard



NO STORAGE ALLOWED

You'll remember that there can be no items stored in the egress system, including stairwells. Here are a few more:

- In front of electrical panels – maintain 3 feet of clearance
- In electrical/mechanical rooms – yes, they seem like wide open areas begging for storage, but there can be no storage in them. This allows for quick emergency access and keeps combustibles away from potential ignition sources
- Stairwells
- Corridors



ANOTHER TYPE OF STORAGE

Code uses the term “storage” often. For most people, this brings to mind tucking away unused items into closets, cabinets, etc. Fire code does consider that as storage, but also items that have been place or staged in a location.

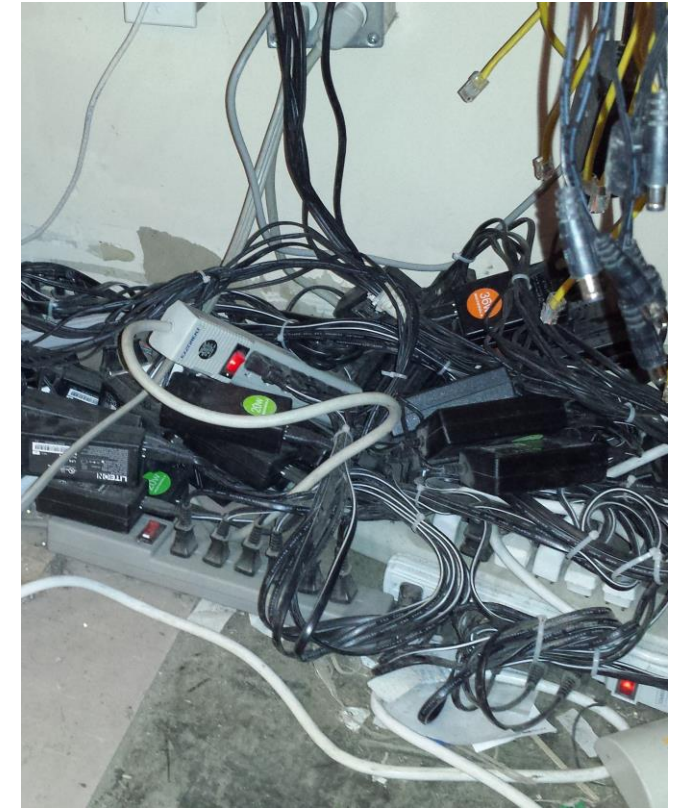
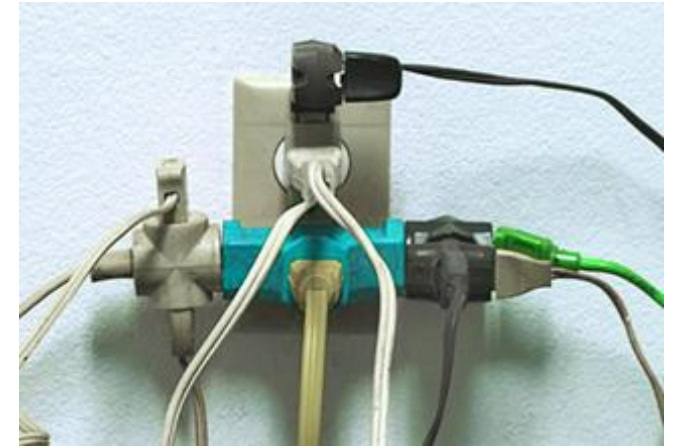
- Keep fire extinguishers and fire extinguisher cabinets clear
- Keep fire alarm pull stations clear for immediate use



Common Violations

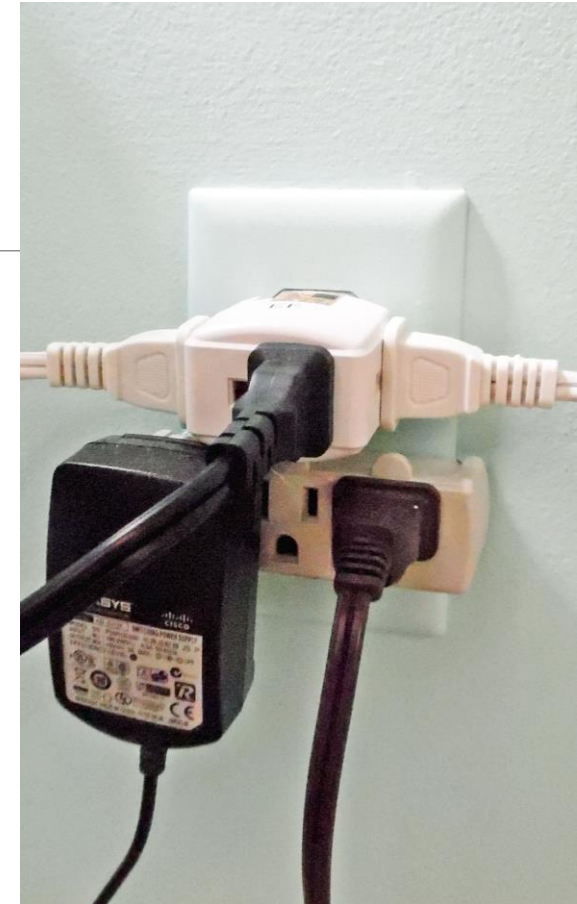
Electrical

We have so many gadgets and electrical equipment these days and it seems there are never enough outlets for them all. Let's look at ways you can safely optimize your outlets.



EXTENSION CORDS & SURGE PROTECTED POWER STRIPS

- Extension cords
 - Are not meant to be a substitute for permanent wiring.
 - Only use in temporary situations like vacuuming or using a power tool
- Surge Protected Power Strips
 - If you need additional outlets this is what you need to use
 - They cannot be “daisy chained” or “piggy backed” into each other. They must be plugged into a permanent outlet.
- Multi-Plug Adaptors
 - These are not to be used at all



GENERAL HOUSEKEEPING FOR ELECTRICAL

Once you've gotten your power figured out, make sure you follow these:

- It's best to keep cords out of any travel paths, but if it's unavoidable, make sure it has a floor protector over it
- Periodically check all cords, including any office appliances, for damaged cords
- Keep cords tidy





Using a Fire Extinguisher



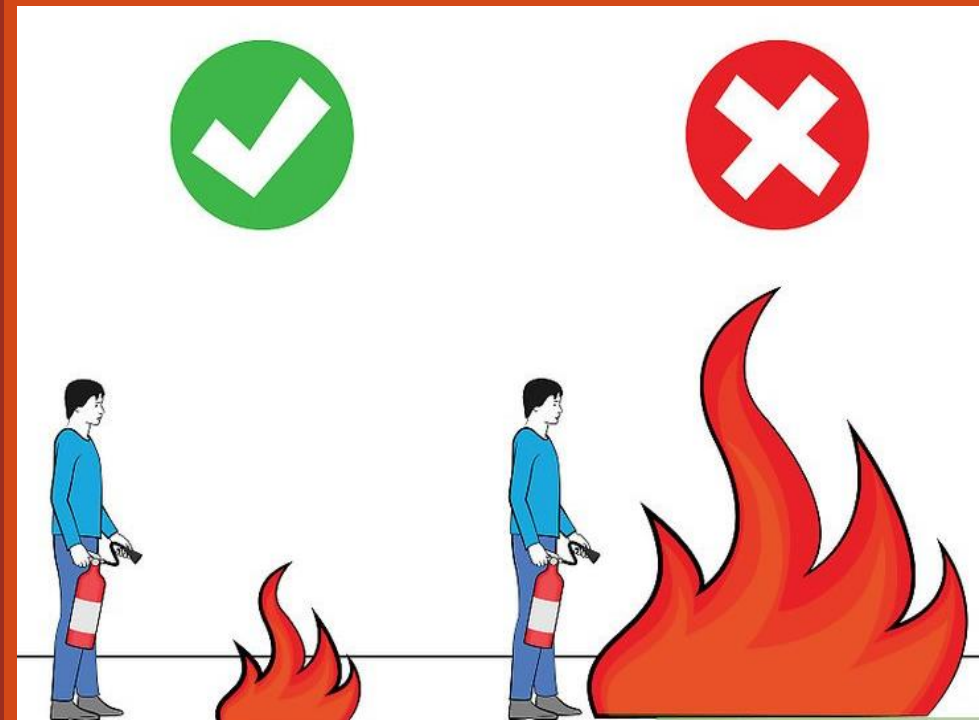
Extinguishing Agent

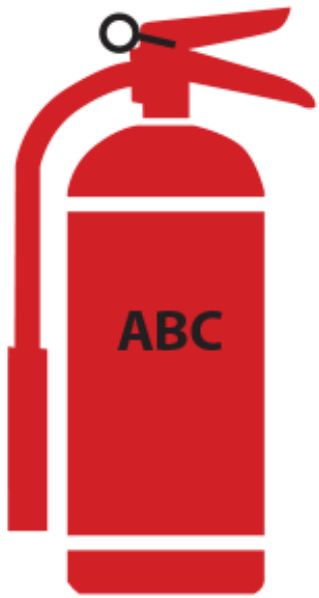
The typical office fire extinguisher has a dry powder chemical that blankets the fire, essentially smothering it.

Limitations of a Fire Extinguisher

Fire extinguishers are limited in their extinguishing capabilities. Do not attempt to extinguish a fire that is larger than a small trash can. More importantly, do not attempt to extinguish a fire if you do not feel comfortable.

If you do attempt to extinguish a fire, always remember to place yourself between the fire and an exit. You must have a viable escape route.

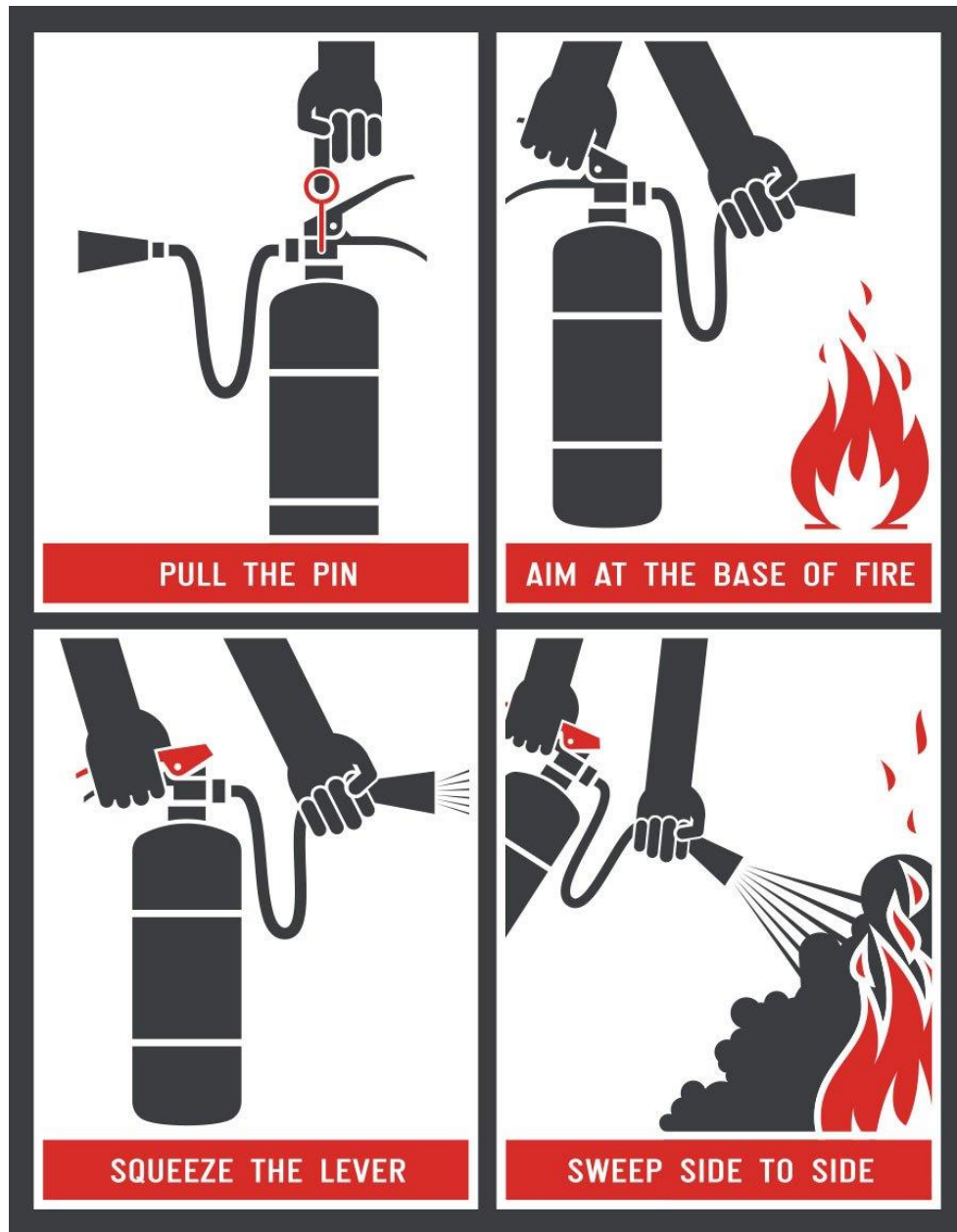




Types of Fire

The typical fire extinguisher located in offices is an ABC Fire Extinguisher. This means that you can use it on any of these types of fires.

Using a Fire Extinguisher



P – Pull the pin

A – Aim at base of fire

S – Squeeze the lever

S – Sweep from side to side



Emergency Evacuation

Emergency Evacuation



Close the door to help confine fire



Activate the fire alarm – Pull Stations will be at your exits!



Evacuate the building – assisting with others if you feel comfortable



Remain at the Assembly Point so that everyone can be accounted for



Limited Mobility and Emergency Evacuation

Area of Rescue Assistance

This is a location on the exterior of a building that provides a staging area for those individuals who limited mobility.

It will have 2-way communication that will make notification to the main panel that is right next to the Fire Alarm Panel.



Area of Refuge

This is a location on the interior of a building usually in a stairwell.

It will also have 2-way communication that will make notification to the main panel that is right next to the Fire Alarm Panel.





OTHER AREAS FOR STAGING

Not all buildings will have designated Areas of Refuge/Rescue Assistance, but that does not mean that there are no options.

Remember the reason stairwells have to have doors completely shut? They are fire rated enclosures, built to keep fire out and a means of egress safe. Stairwell landings are an example of an area suitable for staging.

It takes pre-planning for an emergency event, collaborating with coworkers, and using the resources on campus to help create a plan of action in regards to protecting individuals that may have limited mobility.