

# HOW SMOKE DAMAGES A HOME

By RESOLVE BY LOWES

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Not only have I worked on others homes, I myself had a home fire on October 15, 2009.

A house fire can be devastating and is something no homeowner wants to experience. However, if a fire does occur in your home, professional fire clean up services **who are also general contractors** are available to help you recover from the damage. It's important to know exactly how and where fire damage can impact your home **before the clean-up / rebuilding process begins**, especially since some areas of your home **may are likely to have smoke damage that's not visible**.

## Unexpected Issues from Fire and Smoke Damage

After a fire, it's usually evident what smoke damage looks like in your home - whether it's charred items, discolored walls, or ash and soot on the floor - but it can also produce smells and other side effects that are **harmful to** surfaces as well as **your health**. It's also important to note that some **signs of smoke damage** can occur **immediately**, while others are only apparent **several hours** - or even **days** - **after the fire**.

### Discoloration

Shortly after a fire, the effects of smoke damage are visible on walls, ceilings and surfaces, appearing as stains and discoloration. Within a few days, walls and flooring may begin to turn yellow; however, this yellowing affect doesn't show right away. Plastic surfaces/appliances and wood can also become discolored and warped. Several hours after a fire, **metal hardware can show signs of rust and corrosion**. If you have countertops, tiles or other surfaces that contain porous stone such as marble, granite or travertine, they usually become **permanently discolored** from the acidic residue found in soot. This residue can also **permanently tarnish metals**.

### Odor

Surfaces of your home, specifically fabric items, may not only show visible signs of fire damage, but also may contain a smoky odor. Smoke produces tiny particles of carbon in the air, and when deposited, these particles are called soot. Getting rid of the smoke residue, or soot, is the first step to reducing the smell of a fire.

Smoke is made up of several components, which contribute to the smell that lingers after fire damage.

- Particles - partially or completely burned substances that are sometimes toxic and can penetrate surfaces and fabrics.
- Vapors - misty, fog-like droplets that can be poisonous if inhaled or absorbed.
- Toxic gases - although it is odorless, **carbon monoxide (CO)**, is the most **common toxic gas** that results from a fire. Phosgene is created when household products such as vinyl, plastics and other chemicals and solvents containing chlorine materials are burned. Hydrogen cyanide is a by-product from the combustion and burning of insulation, carpets, clothing, synthetics, and plastics, such as PVC pipe.

The smell of smoke gets trapped in clothing, carpets, drapes and upholstered furniture, and unless these items are properly cleaned and deodorized by a professional fire clean up service, they may retain the smoky smell for a long period of time. The source of the odor can oftentimes be difficult to pinpoint. It could be in the soot on a surface, **in the pores of wood** such as framing lumber or saturated in the **finish** of a piece of furniture.

### Interior Damage

While smoke damage is visible on walls and ceilings, **it can also permeate these surfaces** and cause damage to a home's structure/framing, **wall studs, ceiling joists, rafters, insulation and air ducts** in your ventilation system. When soot and smoke particles become trapped in the **HVAC** system, the smoke odor can reoccur periodically and even cause respiratory problems.

### Electrical Damage

**If any part of a home with wiring experiences fire damage, it usually means that the electrical system has been compromised**, too. Depending on the source of the fire, any of the following electrical components may be damaged: wiring, cords, outlets, switches, fuses and breaker boxes. Appliances that have been affected by fire damage can show signs of corrosion, experience short circuits and malfunction, or fail completely.

No matter the level of destruction to your home, you should always consult licensed and trained industry professionals to access smoke or fire damage before you move forward with restoration and repairs.

Having reviewed numerous "restoration" and "cleanup" websites under the search parameter "smoke damage in a home" **I found none** that addressed Interior Damage or Electrical Damage as this article does. All empathized **"cleanup" only**. I believe this is due to the fact remove and replace processes are expensive and **insurance companies would rather claimants not know the true extent of the damage**.

### Areas of a Home Commonly Affected by Fire Damage

The level of damage will vary depending on where a fire originated **and how long it burned**. An enclosed space typically will not have as much smoke damage as a large, open room with multiple appliances and a lot of **wiring in the walls**. Additionally, certain parts of a room may experience more damage than others.

#### Ceilings

Because hot air rises, the highest concentration of smoke residue is commonly found directly above where a fire started - usually on the ceiling above the point of origin. Nail heads in the ceiling (and walls) can also attract smoke particles, which appear as an outline of a ring around them. **Because of the high concentration of smoke on the ceiling throughout the home there is a greater likelihood it will permeate the ceiling materials, smoke detectors and ceiling lights**.

#### Corners

When smoke particles are ionized - or have an electrical charge - they are attracted to certain surfaces. Smoke produced by burning plastic carries a stronger charge than

smoke from wood, paper or cotton. This causes smoke residue to form in clusters that look like cobwebs in the corners of rooms where walls and ceilings meet.

## Walls and Windows

Windows and exterior walls are usually cooler than the center of a room and because smoke naturally travels to areas with a lower temperature, it's common to find a lot of smoke residue on outside walls and even in spaces behind drapes and blinds, even more so than surrounding surfaces.

## Next Steps

Once you and your family are safe, you'll need to contact a professional smoke and fire clean up service to assess the damage and advise you on the type of service(s) you'll need to remove any smoke damage. It's highly advised to [seek smoke damage restoration within a few days of the fire](#) to minimize the amount of repairs your home will need.

*The information and advice contained in this article is intended as a general guide for informational purposes only. It does not take into account your personal situation. While we at Resolve have significant experience and history operating in the home restoration industry and working closely with construction contractors, we are not licensed as a general or specialty contractor. We encourage you to consider the information we've provided but urge you not to rely upon it in place of [appropriate professional advice from a licensed, experienced construction contractor](#).*

**As a licensed experienced construction contractor I hereby make the following statement:**

**There is only one way to repair a fire damaged home, every room that has visible smoke damage needs flooring materials removed, every wall and ceiling striped to bare studs and joist. Insulation, electrical wiring, outlets and switches, and HVAC systems need to be removed. The exposed framing needs to be sealed, only then can new electrical, insulation, drywall and HVAC be installed, plus any cabinets and other materials. Every insurance adjuster and restoration contractor should know this but most often they work together to provide less than the claimant's insurance policy calls for, full replacement cost.**

Daniel R. Jenkins

## ARTICLE ONLINE

<https://www.resolvebylowes.com/guidance/fire/how-smoke-damages-a-home/115000893728>

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