A QUICK GUIDE TO FIRE DAMAGE

Tips and considerations for facility, plant, engineering, property and risk managers
INTRODUCTION

You probably think you are prepared for a fire. Especially if your building has fire alarms, smoke detectors, fire extinguishers and an evacuation plan. But even with these measures in place, the truth is that most people and businesses aren’t truly ready for a fire and the confusion and stresses that follow. And in the 21st century, fires are still a real threat. For example, there were nearly 1.3 million fires in the U.S. in 2014 alone, causing more than $11.6 billion in property damage. Structure fires accounted for 494,000 of those fires—or one fire reported every 64 seconds—and $9.8 billion in damage.1

For both residential and nonresidential building fires, cooking is usually among the leading culprits. The following numbers from 2013 provide a good snapshot of common causes of fires in current times.

<table>
<thead>
<tr>
<th>Leading nonresidential building fire top causes</th>
<th>Leading residential building fire top causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooking – 29.3%</td>
<td>Cooking – 49.4%</td>
</tr>
<tr>
<td>Intentional – 9.7%</td>
<td>Heating – 12.9%</td>
</tr>
<tr>
<td>Unintentional, careless – 9.2%</td>
<td>Electrical malfunction – 6.1%</td>
</tr>
<tr>
<td>Heating – 9%</td>
<td>Unintentional, careless – 5.5%</td>
</tr>
<tr>
<td>Electrical malfunction – 7.9%</td>
<td>Open flame – 4.6%</td>
</tr>
<tr>
<td>Open flame – 6.1%</td>
<td>Appliances – 4.5%</td>
</tr>
<tr>
<td>Other heat – 5.2%</td>
<td>Intentional – 4.5%</td>
</tr>
<tr>
<td>Appliances – 4%</td>
<td>Other heat – 3.3%</td>
</tr>
<tr>
<td>Other Equipment – 4.8%</td>
<td>Smoking – 2.1%</td>
</tr>
</tbody>
</table>
Your ability to coordinate help after a fire is put out can have a potentially large impact on recovery time and costs to your property. There are a lot of factors you don’t want to be figuring out at 2 AM or when you don’t even have a desk to return to for the foreseeable future. Recovering quickly (relative to the circumstances) requires awareness of the basics of the recovery process, including key insurance considerations, what kind of help you'll need to recover and where you'll get it.

This guide will help you understand some of the types of issues you may have to deal with after a fire—and what to do to be prepared for the difficult circumstances. It provides:

• Examples of damage that can happen in a fire that you may not be aware of
• A brief overview of key steps in the recovery process
• Four key things to consider in a fire response plan

DISCLAIMER: Before we dive in, it’s important to understand that this brief guide is simply meant to raise awareness about the importance of fire preparedness. It is not comprehensive and cannot account for everything you may need to be aware of; every fire is different and the level of damage and/or destruction varies dramatically from fire to fire, depending on all kinds of circumstances and building considerations (including building contents).
WHY AWARENESS AND PREPARATION MATTER

No one can tell you exactly what to expect in a building fire because there are simply too many variables to consider. Some fires destroy entire buildings while others are confined to a single room or space and are quickly put out. Still others may destroy a couple of rooms or a part of a building while many areas go untouched by flames. It’s important to understand, however, that flames and smoke are only one part of the story. Even if a fire only strikes one part of a building, it can set off all kinds of chain reactions throughout the rest of the building. Here are a few brief examples from countless possibilities:

**Utility interruption**—In most fire situations, many, and often all, utilities are at least temporarily interrupted or lost. That means electrical, gas and phone systems will likely be affected.

**Sprinkler flooding**—Depending on where fire suppression sprinklers go off, you may have a lot of headaches to deal with, in addition to fire and smoke damage. For example, in a multiple story building, if the sprinklers only go off on one of the upper floors, you may still experience water damage on many (or even every) floor beneath the floor where the fire occurred. It’s also important to understand that the water in fire suppression systems is often dirty and it only gets worse as it mixes with soot from the fire.

**Smoke and soot damage**—Depending on how your heating, ventilating and air conditioning (HVAC) system is configured, the system may carry particulate from the fire, including smoke and soot, throughout the building. The soot and smoke leave behind strong odors and acidic residues that can discolor, stain, tarnish, corrode and pit surfaces. While discoloration may happen in minutes on some types of materials, you may be able to prevent many types of damage with quick mitigation efforts.4

**Chemical messes**—Many automatic fire suppression systems have some form of chemical in them that will leave residue and messes. For example, the glycol present in some fire suppression systems leaves an oily residue on anything it contacts.
Data losses—Aside from damaging walls, fixtures and furniture, water from fire suppression systems may render computers and other electronic equipment unusable. And if your business or organization relies heavily on paper documents, you may need to act quickly to stabilize and salvage documents or books.

Asbestos hazards—Many original building materials, including caulking and joint compounds, ceiling and floor ties, pipe insulation, and even some layers of paint, could include asbestos. If post-fire testing indicates the presence of asbestos particles, you may face immediate access restrictions. Moreover, all of the materials, furniture and equipment located in any areas where asbestos is found is not salvageable. It will be taken directly to a disposal area.

By now you should understand why you could be facing a big mess whether or not the direct damage from a fire is limited. Moreover, given everything that can happen in a fire, you likely won’t understand the extent of the damage you are facing until the fire department releases control of the building and have an opportunity to assess the entire situation. As you will see in the next section, at that point you have a lot to consider and ideally your restoration partner will be standing by to help. In the meantime, it’s important to notify your insurance broker or agent as soon as possible about your loss.

ASBESTOS FAST FACTS
- Asbestos was widely used in building materials through the 1970s.
- Asbestos fibers in many older materials may be released into the air during a fire.
- Asbestos is still legally embedded in some modern construction materials, such as vinyl floor tiles and cement shingles and pipes, where it is unlikely it will be disturbed. These types of products are typically manufactured in and legally imported from other countries.
- Non-cancerous diseases caused by asbestos include asbestosis and pleural plaques.
- Cancerous diseases caused by asbestos include lung cancer and mesothelioma.
- The length and frequency of exposure, and whether or not you smoke often impact the severity of asbestos-related health issues.
WHAT TO EXPECT AFTER A FIRE

Once the fire department is gone, the hard work begins. Depending on the type of building, your considerations may vary widely. For example, healthcare and manufacturing facilities include materials and equipment that present different types of challenges that would be found in a commercial space or residential building. On some level, however, many post-fire responses involve a similar combination of initial steps. To give you an idea of what to expect, here are some of the more common things Interstate does for all of our clients, regardless of their property type, when we respond to fire-related disasters:

Assessing safety

Given all of the potential hazards at a fire site, several levels of safety considerations are critical as recovery work begins. Structural considerations, including shoring and stabilization of the building, are a top priority. Depending on the extent of the damage, several parties may be involved with getting access to the property to perform services, including fire departments, municipalities, engineers, environmental agencies, and insurance and subrogation adjusters. A good restoration provider can contact and coordinate the various parties to help move the project forward in a timely manner.

Asbestos is another critical safety consideration. In many areas, depending on the age of a building, the fire department or another agency may field test for asbestos. When asbestos is detected, you may face immediate access restrictions to all or parts of a building and also take steps to seal off contaminated areas to prevent their spread to surrounding areas. A certified contractor will need to help with cleanup, such as taking contaminated materials to an approved landfill.

Beyond structural and asbestos considerations, there are innumerable safety issues that your responders may need to address. For example, manufacturing sites house hazardous materials, such as petroleum-based products, that require special disposal considerations. Regulations may also require that you use special extraction and disposal methods for water contaminated with chemicals and other pollutants.

DID YOU KNOW?

- Soot is made up of flakes of matter that did not burn completely.
- Smoke is made up of a combination of solid and liquid particulates and gases, and the composition of smoke is based on a variety of factors, including the fuel and surrounding conditions.
- The smoke from most building fires can include hundreds of different chemicals and fumes.
- The smoke damage at a fire site is often worse than damage from heat.
- The longer surfaces exposed to smoke are left untreated, the more damage they will incur.
Securing the property

Fires often attract a lot of attention. It’s only natural that employees or residents will want to reenter the building as soon as possible to recover important personal items. Curious onlookers may simply want to have a look around. And looters will often see fire sites as opportunities. That’s why it’s important to take quick steps to secure your site, whether that means bringing in security guards, boarding up parts of the building or even setting up a fence. That way you can better manage employee and resident safety and keep others out.

Prior to giving you reentry approval, the agency controlling the scene may also request that you preserve the state of certain areas for further investigation. And that may involve discussions and coordination with other insured parties.

Preventing secondary damage

In addition to contacting your broker or agent as soon as possible after a loss, the insurance policyholder is expected to mitigate further damages to a fire site. For example, if the fire happens during the winter in a cold climate, you may need to winterize the property to protect pipes from freezing and bursting. Your restoration provider can help you determine what needs to be addressed/protected and make sure the work is completed in a timely manner.

Assessing damage

Once officials deem an area safe to enter, experts will need to assess possible damage to building features, such as plumbing, electrical and HVAC systems. Moreover, since time is often of the essence in saving property, such as fixtures, furniture, equipment and documents, or other goods and materials, that have been exposed to smoke, water or other contaminants, it’s also important that you quickly and accurately understand your recovery options.

Much of the assessment process involves considering the damage level to different items or property and the cost of cleaning/restoring or resurfacing it versus replacing it.

When damage levels allow, cleaning is often the fastest and most economical recovery option. In most cases, restoration companies and insurance companies work together to figure out when it makes more sense to restore versus replace property.

THE SALVAGE PROCESS AT A GLANCE

Every organization has its own considerations with regard to salvaging fixtures, furniture and goods and materials. Generally, the steps in the salvage process include:

- Assess/safety
- Containment
- Preservation
- Decontamination
- Restoration and repair
- Re-commissioning

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Tackling damage and preventing further issues

When it comes to cleaning up and preventing further damage to relatively “unburned” areas, restoration providers rely on a host of resources. One of the first and biggest challenges is often mitigating water damage from sprinklers and fire hoses. In addition to removing water, professional dehumidification and mold remediation support may be needed to restore humidity levels and prevent mold from taking hold and spreading in damp areas.

For building surfaces, such as furniture and many materials affected by smoke and soot, your provider will decide which chemicals, tools and/or processes are best based on the type and extent of damage and the type of surface they are addressing. Standard toolkits typically include some combination of the following types of resources:

**Cleaning agents**—general purpose and heavy duty detergents, glass cleaner, wood polish, metal cleaners and polish, acid cleaners, wood restoring creams and gels.

**Furnishing and structure cleaning solutions**—carpet and upholstery cleaners, floor cleaners, stone, tile and grout cleaning chemicals, dry cleaning solvents, pressure cleaning chemicals, specialized ceiling and surface cleaners, sandblasting equipment and sealants to reduce odors.

Recovering damaged paper documents and books is a unique challenge compared to many other types of materials. Paper can be damaged from charring, smoke, water or even dry chemical exposure. Once paper is damaged, the faster you can begin the recovery process, the more successful the overall recovery process will be. It’s especially important to address wet documents and books as fast as possible since the disintegration process begins as soon as paper is exposed to water. Fortunately, the water in damaged books and documents can be removed through the freeze drying process, and the key to limiting damage is to box up and freeze wet paper as quickly as possible.

**DOCUMENT RECOVERY AT A GLANCE**

- To arrest the disintegration process, wet documents are boxed and loaded onto freezer trucks for transport to a processing facility.
- The initial freezing slows down disintegration until damage can be completely arrested with the freeze drying process.
- Many freeze drying chambers take 14–28 days to dry documents and books, but newer technology works in as few as 5–7 days.
- Cobalt 60 gamma sterilization can be used to sterilize documents exposed to pathogens.
- Ozone treatment can be used to eliminate smoke odors.
- A good vendor can help you deal with charred edges and other document and book damage, in addition to providing critical security measures needed for confidential, business-critical information.
Deodorizing

Offensive odors are an inevitable after effect of almost every fire. In addition to being unpleasant to smell, odors can also impact employees’ attitudes, productivity and sense of well being. That’s why removing odors is an important step in recovering from a fire. Your restoration provider will use a variety of processes and chemicals, including many of the resources touched on in the tackling damages section, to remove odors.12

Communicating to stakeholders

Beyond notifying your insurance broker and filing a claim, employees, customers, residents and other impacted parties will want to know what’s happening in the building and how bad the damage is. Your restoration provider should be able to provide the information you need to address peoples’ questions and concerns.

Arranging other emergency services

Depending on the building type and circumstances, you may need other types of emergency services, such as temporary power, temporary HVAC, drying and dehumidification, asbestos abatement, document restoration and content restoration from your service provider. For any areas or contents that are especially important or sensitive, it’s best to discuss what kind of help you might need in advance to make sure your restoration provider is aware of your specific needs and has the expertise and resources needed to respond quickly.

Coordinating reentry and/or retrieval of important/valuable items

Before the smoke has cleared and ash has settled, you can expect requests for reentry to get personal items, such as medication, phones and computing devices as well as important documents or files and other items. In some cases, such as when asbestos is present, you may simply have to turn people away. When damage is limited, however, a good restoration provider should be able to help you coordinate safe retrieval of important items, including testing of items by a hygienist to make sure they’re safe.
PLANNING YOUR RESPONSE

Now that you have a better sense of the chaos and considerations associated with a fire, it’s a good time to revisit your disaster recovery plan (DRP)—or to create a plan, if you don’t have one. And when it comes to using your DRP to prepare for a fire, some of the key steps include making sure the DRP outlines critical features and considerations in your building. At the very least, it’s important that you and other key response coordinators understand the fire protection and mitigation system, along with where key utility access points, including electrical panels are located. Ideally, your DRP, or even a separate document, will include a building information summary that outlines the following details:

**Contact information**—highlight all relevant providers for a fire loss, including insurance broker, security contacts and disaster restoration provider and any other critical contacts.

**Parking details**—Include overview of parking areas and highlight building entrances.

**Amenities**—Note key building information, including details such as ENERGY STAR rating, areas that have recently been remodeled and other information that emergency restoration providers may need to be aware of.

**HVAC details**—Detail all of the heating and cooling units onsite.

**Electrical details**—Provide an overview of the building electrical system capacity and electrical feeds, noting the location of electrical panels.

**Elevator and stairwell information**—Indicate the number and specifications of elevators, as well as the number, location and types of stairwells.

**Asbestos details**—Highlight any available information about materials in the building that do or may contain asbestos, including locations.

Beyond the above information, be sure to include any other details that you think may be important or helpful to a response provider. Working with a disaster restoration provider to ensure that your DRP addresses all of the critical considerations you will need to address in a fire or other type of disaster is an even smarter approach. That way you and your provider will be familiar with your building when they get the emergency call and have a good sense for what their response will need to involve.
4 ESSENTIAL QUESTIONS TO CONSIDER

Ask yourself these 4 key questions:

1) How would your property be impacted over the long and short term if you had a fire?

A risk assessment and business impact analysis for fires and other potential dangers and catastrophic events are key to understanding dangers to your property and planning accordingly.

2) Do you have an action plan (disaster recovery plan) for fires and other disasters?

An action plan is critical because without one you will be left scratching your head and figuring things out when recovery should already be underway. At the very least, it’s important to know who you’re going to call for help and to make sure that you have identified sensitive and important property or documents that may need special consideration.

3) Do you have the correct insurance coverage?

Once you have a clear understanding of the risks to your property, it’s important to understand your insurance policy to make sure there are no gaps in what a policy includes and what you may need.

4) Do you have a crisis management team in place?

By now you understand that the logistics of a post-fire recovery are often complex. Having a crisis management team in place with individuals ready to handle key responsibilities, such as life safety, securing the property and communications, can help speed recovery and ease confusion and stresses after a fire.

BUILDING OWNER TIP

If you have tenants or renters in your building, require them to list you as an additional insured party. That way, if a renter or tenant cancels their insurance you will be notified and be in a better legal position to file a claim in the event that the tenant or renter caused the damage.
FIRE PREPAREDNESS PAYS

Fire preparedness is one of those things that can be difficult to appreciate the value of until you’re actually facing a disaster. But take it from professionals who see the impact of fires on a daily basis—you don’t want to face a fire completely unprepared. It will cost you in all kinds of ways, from the stress of trying to coordinate a response during a trying time, to all of the added costs associated with a slower recovery time. It’s also difficult to vet restoration providers’ reputation and quality when you’re scrambling to protect your business interests. Best of all, if you line up a recovery and restoration provider ahead of time, they can help you with your disaster recovery planning and ensure that all of the necessary measures for a fast and effective fire response are in place, should the need ever arise.

ABOUT INTERSTATE

Interstate is a nationwide emergency response restoration and general contractor company. We specialize in assisting owners and managers of commercial properties with recovery from fires, floods and natural disasters.

With the most experienced team in the industry, Interstate’s highest priority is to minimize interruptions and return your property to normal as quickly as possible. We are one of the few companies that can help you with everything from initial cleanup to full repair of every detail of your building. This means you can focus on the important stuff—like getting back to business, and back to life.

To find out more, visit our website at www.InterstateRestoration.com or call us anytime (day or night, 24/7) at 800–622–6433.

Sources:
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