

Post-Fire Structural Damage Assessments and Remediation

Cooking, heating, electrical, smoking and candles; these are the top five causes of fires according to the National Fire Protection Association (NFPA). Regardless of the cause, fires are often challenging to navigate for all involved parties.

Once a fire has been extinguished, it is necessary for property owners to take steps in determining the extent of damage and assess the condition of their structure. An initial step following a fire is to contact your insurance company who will assist in the process of evaluating damage and determining coverage. An adjuster may come out in person or may send out a qualified inspector or expert to assess the building, the extent of damage, and some health and safety risks. Depending on a number of factors a structural engineer may be needed to determine the extent of structural damage and soundness of the building.



Depending on the level of restoration required and other factors such as a potential disagreement of restoration inclusion, an industrial hygienist may be contacted to conduct an assessment to provide impartial and objective analytical evidence to support a level of restoration or restoration technique required. An industrial hygienist provides skills that interconnect project restoration objectives and worker and occupant health and safety. Hiring knowledgeable and experienced professionals and consultants early to assess the extent of the damage will lessen the headaches, liabilities and delays down the road. An experienced professional will be able to pick up specific visual cues of actual fire damage, which can include selective deposition/accumulation of combustion-related particles, electrophoresis, thermophoresis, filtration mark/threshold streaks, among others. A written report or protocol outlining recommendations for restoration by these professionals will assist contractors in developing safety protocols for the site as well as determining the equipment and products necessary to complete the job.

Hiring an Industrial Hygienist

Finding and hiring an experienced professional to evaluate the extent of fire and smoke damage within a building structure is key to a successful remediation project. An industrial hygienist who understands sampling strategies, reliable laboratory methodology and remediation procedures will provide a smoother path towards safely and swiftly reopening/reoccupying your building following a fire. An Industrial Hygienist provides the skills necessary to arbitrate or bridge the gap between differing stakeholders' (homeowners, building owners, insurance representatives, and community and business leaders) opinions or objectives utilizing objective analytical evidence. The end goal for hiring an Industrial Hygienist is to assist in returning your property to its pre-fire condition and ensure safety for workers, employees and occupants.

Impact Assessments

An impact assessment of the affected property determines how an Industrial Hygienist will investigate and evaluate smoke damage and remediation needs in walls, ceilings, ducts, and wood within the effected structure. Depending on the severity of the damage, an Industrial Hygienist's recommendations will range from cleaning to sealants to removal and replacement. Structure/Building fire impact often extends far beyond the area of direct and obvious damage to building materials and structures. In addition to visual inspections, olfactory (odor perception) inspections are an important and vital aspect of a fire damage investigation and may include neighboring properties/structures to the fire source. Odor perception can depend on the sensitivity of the individual and may be dampened or heightened by various factors such as allergic reactions and medical conditions.



Sampling and Analysis

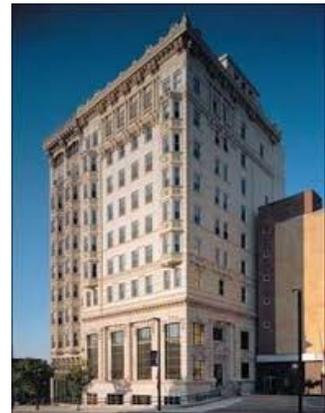
Sampling and analysis of fire residuals are important in determining the environmental quality of a damaged structure and to aid in objectively identifying impacted areas within a structure. Generally, sampling for fire residuals includes surface tape lifts, wipes, drywall core samples, and/or micro-vacuuming. Common analysis of bulk samples involves a visual estimation technique using several types of microscopy, including stereomicroscopy, light microscopy, electron microscopy, and X-ray spectrometry. Laboratory methods are used to identify any char, soot, or ash on sampled surfaces.

Remediation Process

The Industrial Hygienist will be able to design a remediation protocol that has the intended goal of restoring a damaged structure or property back to pre-fire condition once a determination has been made concerning the extend of the fire's impact.

Restoration methods will progress from least aggressive, basic surface cleaning using wet wiping and high efficiency particulate air (HEPA) filter vacuuming, to the most aggressive restoration method - complete removal and rebuild of an impacted structure.

Following restoration, the Industrial Hygienist may perform a post-remediation verification inspection to ensure all fire residuals and smoke odors have been eliminated, and that the scope of the remediation tasks have been followed and completed. During this post restoration inspection, the Industrial Hygienist may collect additional surface and/or air samples to compare to previously collected interior samples and background samples.



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At RHP Risk Management, we help our clients navigate the uncertainties associated with environmental and occupational hazards and risks. Our staff of public health professionals are experienced and trained in recognizing, anticipating and controlling hazards and are experts in evaluation of indoor environments and development of building remediation plans in the case of fire damage. For more information on RHP's services and contact information, please visit <https://rhprisk.com/>