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Protecting Your Business

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When Disaster Strikes...Is Your Equipment a Liability Risk?

Editor's Note: This is the sixth installment of an eight-part series that looks at a dry standard and quality documentation.

Over the past several years, unprecedented hurricane seasons have led to more and more flooding in homes and commercial buildings. To dry out these buildings, restoration contractors use a wide range of equipment—from dehumidifiers and air movers to inter-air drying systems and filtration equipment.

What do all of these pieces of equipment have in common? At some point, they all must be left unattended, plugged in and running in wet structures. Clearly, this raises some important questions for restorers to consider:

- How much equipment can be placed on a circuit?
- Should we be concerned about overloading it?
- Will the circuit breakers and fuses do their job if a problem arises?
- What other safety concerns need to be addressed?

Believe it or not, some restorers will install drying equipment without

much hesitation—giving little thought to liability. They assume that drying equipment, even after thousands of hours of use, will continue to operate. They trust that overloaded electrical circuit breakers will not fail and that power cords can safely handle the estimated electrical load.

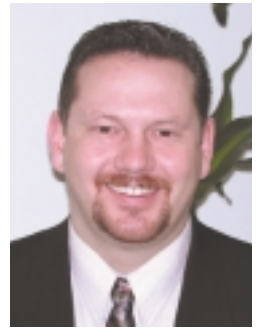
Unfortunately, harmful and damaging incidents can occur, creating safety liability concerns for all of us. Lawsuits can carry a ticket well into millions of dollars because of electrical fires that cause secondary structural damage. For these reasons, it is critical that every restorer work hard to increase safety and reduce company liability when performing residential water damage restoration, including the use of safety certified equipment (e.g., UL) and ground fault circuit interrupters (GFCI).

What is UL?

Underwriters Laboratories (UL) is one of the trusted sources across the globe for product compliance. Benefiting a range of customers—from manufacturers and retailers to consumers and regulating bodies—they've tested products to ensure public safety for over a century.

UL's Standards for Safety are essential for ensuring public safety and confidence, reducing costs and improving quality. Millions of prod-

ucts and their components are tested against UL's rigorous safety standards, providing a safer environment for consumers.



When purchasing drying equipment, consider the huge role that UL certification plays in protecting your company from liability. Just one example of the critical information that UL certification provides: *accurate amp draw for your equipment.*

Amp Draw: Why is it Critical?

One of the most important questions that every restorer should be able to answer is: *How much equipment can be placed on one circuit?* Well, this depends on the circuit . . . but is easy to calculate quickly.

According to the National Electric Code (NEC), no more than 80 percent of the amperage available on a circuit should ever be used continuously. Most homes and commercial structures are built with several 15 amp and/or 20 amp circuits. When the NEC is applied, these circuits should only be used at 12 and 16 amps respectively.

This standard has great impact on the drying of a structure because the

amount of equipment typically used to dry down a building can be significant. Understanding the basics about an electrical circuit in advance can prevent common issues associated with overloading it later.

First and foremost, know *for sure* the total amp draw of the equipment being used. With the UL certification, you can be confident that the amps listed are true to their draw. Thus, you can easily check the amps of each unit, add them up and ensure that the total does not exceed NEC's 80 percent usage standard.

Understanding the NEC standard and calculation is critical because overloading a breaker can lead to many potential problems. The most common problem is tripping the breaker, which will cause drying equipment to shut down and can allow building materials to remain wet for a longer period of time (causing secondary damage). In another scenario, if the breaker fails and does not trip, the overloaded wiring and other electrical components in the structure can heat up, leading to a serious fire hazard.

UL certification provides assurance that you are getting accurate amp draw information on the unit's serial label. Considering this simple certification when purchasing equipment can save you millions of dollars in liability damages in the long run.

The Importance of Documentation

Not all structures are built equally. A restorer, not being an electrician, needs to rely on what he or she knows. What the restorer often knows is only what is shown on a breaker in the home's power distribution panel or what is evident

by the outlet configuration on the wall. But what runs between the circuit breaker and the outlet? Who knows?! Wire gauge, the quality of the wire connections and even the quality of the breaker itself can all contribute to electrical resistance, heat and eventual fire.

The point is that there are many unknowns when you plug that air mover or dehumidifier into a wall. Every time a piece of equipment is plugged in and turned on, there is a measure of risk. Because this risk is always present, it is critically important to protect yourself appropriately and as much as possible.

One restorer recently experienced a structural fire in a rather large, high value home. The fire caused severe damage, and the property owner filed a lawsuit for \$3 million in damages. Upon investigation, it was discovered that the restorer had documented two very critical things: (1) all equipment used was UL certified and (2) he had properly calculated electrical load for all circuits used in the structure.

Properly protecting yourself requires UL certification and appropriately loading electrical circuits. Inspect your equipment thoroughly: *the equipment serial label should show the UL symbol*. If the symbol is there, you can trust the amperage rating. Then, know the maximum load for the circuit into which you're plugging equipment. Never exceed 80 percent of the circuit's total capacity. And, always document your calculations thoroughly.

Murphy's Law

Remember Murphy's Law: *"If anything can go wrong, it will."* Although we are all familiar with the saying,

restoration equipment is still left running in buildings unattended. In addition to fire hazards, many other issues can develop. For example, safety screens on drying equipment are there for a reason: they prevent hands and fingers from getting caught in blower wheels, causing serious harm. If inlet and outlet screens are damaged, curious children are at a high risk for serious injury.

You've probably heard the story about how curiosity "killed the cat." We all know that small children can also be quite curious. They are constantly exploring, pulling open drawers and crawling into cabinets and closets. As I was using some power tools the other day for a project in my home, my son even picked up the hammer and began to copy what I was doing. Can you imagine what would happen if a child were to crawl up to an air mover that didn't have proper safety screens in place?

Maintenance Issues

Maintenance is another essential part of reducing liability. Before your equipment goes out onto a job, make sure that cords on the equipment are free of any frays and that ground plugs are not missing. When you discover a problem with your equipment, cut off the entire cord *completely*. This will prevent that piece of equipment from ever being used on a job where it could end up becoming a serious liability problem.

When cords are frayed or plugs are missing their grounding prong, the power cord itself must be replaced if it is damaged, and merely replacing the plug or a section of the cord will result in the loss of UL certification

for the entire unit. Original equipment cords can be purchased from the manufacturer of the equipment. With some equipment, it may be necessary to have the cord replaced by a trained and authorized service technician.

Other Considerations

By following good safety recommendations when handling electrical equipment on all water damage structures, you can greatly reduce the possibility of liability issues. Some other suggestions to consider:

- Do not flip a switch or plug on an appliance if it has been affected by water until an electrician tells you it is safe.
- Do not touch a circuit breaker or replace a fuse with wet hands or while standing on a wet surface. Use a dry plastic- or rubber-insulated tool to reset breakers, and use only one hand.
- Do not allow power cord connections to become wet. Do not remove or bypass the ground pin on a three-prong plug.
- Use portable ground-fault circuit-interrupter (GFCI) protective devices to help prevent electrocutions and electrical shock injuries.
- If electrical devices, such as circuit breakers, fuses, GFCIs, receptacles, plugs and switches have been submerged, discard them. Have a qualified electrician do this for you.

The devastation of a flood is enormous. As the drying of a structure begins, be aware of potential threats to your personal health and safety—and that of others—related to the equipment you will use on the job. By

observing the basic precautions outlined in this article, you can help prevent injuries, fires and potential lawsuits. Always put the safety of your technicians, your customers and building occupants first. ■

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References

- UL standards for safety. (2005) Retrieved on December 14, 2005 from <http://www.ul.com/info/standard.htm>.
- The New Guide to Restorative Drying. (2nd ed.). (2006) Burlington, WA: Dri-Eaz Products Inc.
- When Disaster Strikes...Electrical Safety in Your Flood-Damaged Home. (2005) Retrieved on December 14, 2005 from <http://www.ul.com/katrinafloodwaters>.