



Restorer's Corner

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Feature

Fine-tune your disaster restoration skills via Q&A with CM/Cleanfax® magazine's expert consultants.

by: David Oakes

Q. *Three-day drying is a term that I hear often in the industry. Can you explain how this got its start and what the truth is about this term?*

A. I'd like to address most of this issue with a history lesson, which will help us see how we advanced to where we are today when it comes to water damage restoration.

June 9, 1972, Rapid City, SD — Within six hours, a total of 15 inches of rain fell, flooding Rapid Creek that flows through the city.

A total of 237 lives were lost during this catastrophic flood.

And, a new industry was born: Water damage restoration.

At the time of the Rapid City flood, Lloyd Weaver, owner of Lloyd's Carpet and Upholstery Cleaning, was called to many homes to extract the water.

His method was relatively simple: He extracted the water and then lifted a corner of the carpet and installed an air mover.

Next, he lifted the carpet on the opposite corner of the room and let the air out. At the same time, Lloyd ran a refrigerant dehumidifier to remove the excess moisture in the air.

Once the carpet and pad were dry, he re-installed and cleaned the carpet.

Three-day drying is born

Somewhere along the way, someone asked Lloyd: "How long will it take to dry?" His response was simple: "I don't know, maybe three days."

Lloyd's response was based on experience.

Keep in mind that carpet in the 1970s was mostly nylon with double jute backing, typically installed over a high-quality pad.

Double jute-backed carpet was easily extracted with nothing more sophisticated than a wet tank vacuum and standard carpet wand.

Buildings back then were naturally ventilated and humidity escaped readily. Carpet, pad, and floors dried quickly.

Lloyd went on to manufacture an air mover, as well as dehumidifiers and moisture sensors.

At the time of the Rapid City flood, this equipment represented state-of-the-art technology.

Lloyd's air mover consisted of a modified metal furnace blower with a tin metal snout, all painted blue.

His moisture sensor was a half-inch electrical conduit, soldered to a tin box that held two 45-volt batteries wired in series and attached to two probes.

A simple light at the end of the sensor indicated moisture: Light on = wet; light off = dry.

Those two batteries produced 90 volts at the tip. You didn't want to test the sensor with the tip of your tongue — if you did, you'd only do it once!

The floating carpet

In Rapid City, 35 years ago, never once did anyone think of pulling the carpet pad to dry the structure below.

The air mover was simply placed under the carpet and on top of the pad.

Dehumidifiers were set on stands so they could drain into a five-gallon bucket — impressive!

Throughout the late 1970s, life remained good, carpet dried quickly, and everyone was happy.

That was the start — and the end — of three-day drying.

But, unfortunately, the insurance industry never forgot those magic words that Lloyd uttered in the early 1970s: *Three-day drying*.

Today, carpet and cushion (pad/underlay) have changed dramatically, as have building materials and the tools we use to dry them.

Today's drying industry

So, how long does it really take to dry in today's world?

To determine this, we could use a long and complicated formula that applies the rate of evaporation based on surface areas, wind speed, thermal exchange rates, permeance, and vapor pressure differentials.

But, this formula is still somewhat speculative because we would also need to know exactly how much water has entered the materials, how long those materials have been wet, plus moisture content gradients and the temperature of the water.

Therefore, math is neither the best answer nor the real solution to the question.

Instead, we can take a look at building materials and history, and then apply modern equipment formulas to arrive at the fastest drying scenario possible.

Materials matter

Double jute-backed carpet began to disappear in the 1980s with the introduction of Action-Bac® carpet backing.

This inexpensive product features a polypropylene backing that is decay- and mold-resistant, but has the drawback of being very difficult to extract.

At about the same time that poly-backed carpet became popular, rebond cushion (pad/underlay) was also introduced to the carpet industry.

Rebond is unique in that it is manufactured from recycled material and is an excellent cushion.

The introduction of rebond and poly-backed carpet created an extended drying time when using the old "float the carpet" method of drying.

Poly-backed carpet is very difficult to extract, and rebond cushion has a tremendous capacity to hold water.

Further, the only extraction tools available to our industry in the 1980s were tools made to clean carpet, not specifically for water extraction.

During this period, drying times extended up to seven days or more — for jobs that previously took three days or less.

It didn't take long for restorers to do the math and determine that seven days of equipment rental equaled the cost of pulling the cushion (pad/underlay).

Three-day drying, again?

We went back to three days of drying, yet we were installing new pad when we re-installed the carpet.

The process was very labor-intensive and was not a good value proposition for the insurance company and the homeowner.

But, it always worked, even if we were not careful with extraction, or even when we had the wrong type of drying equipment.

It worked, but why go through all the effort when there is a better, more economical way?

Here lies the problem.

Much like an elephant, the insurance industry never forgets — *three days, three days, three days*.

Somewhere along the line, we — the restoration industry — taught insurance companies that pulling the cushion (pad/underlay) was the way to go.

That is where we got stuck. After the 1970s motto of three-day drying, and then the 1980s model of pull-the-cushion, any new method we could develop became wrong.

Modern methods to the rescue

Welcome to the 21st century.

With specially designed extraction tools it became possible to extract water off the floor, through the pad and from carpet, to the point where little water remains in the pad.

With new extraction technology, low grain refrigerant (LGR) dehumidifiers, compact portable desiccant dehumidifiers, and proper air movement, we were back to an efficient and cost-effective drying system.

In-place drying, while not appropriate on all water losses, saves the property owners money and restores their home to normal use very quickly.

In-place drying typically offers up to a 20 percent savings over conventional drying systems (pull-the-cushion methods).

Best of all, when we are finished drying, we are completely done with the job; there's no need to wait for an installer to replace the pad and re-install the carpet.

Another benefit is that there is no need to completely remove the contents from the structure.

In-place drying allows you to move the furniture around the room in a manner similar to carpet cleaning.

Breaking the habit

Why are some of us still doing it the old way?

How can we better equip ourselves for in-place drying?

First, it is important to have enough equipment and the right type technology, including proper moisture meters for measuring materials and contents.

A proper documentation system should be in place for recording results.

Up-to-date training and certifications are also essential before attempting in-place drying, as it requires experience and practice.

If you haven't attended an Applied Structural Drying (ASD) class recently, be sure to do so.

Some restorers say that the insurance adjuster won't allow in-place drying because *"the other guy always pulls the pad."*

Just because the adjuster doesn't know any better shouldn't stop you from using the latest technology.

So, how long *does* it take to dry?

Put simply, the structure is dry when the moisture meters tell us that the materials are back to a pre-loss condition.

As we all know, this does not always happen within three days.

If an adjuster refuses to pay for more than three days of drying, remember that they are violating the terms of the insurance contract that requires them to return the structure and contents to a pre-loss condition (including moisture content). CM

David Oakes has worked in the field of cleaning and restoration since 1973, and owns and operates a full-service cleaning and fire/water restoration firm. As a consultant, he has worked as an expert witness for both the insurance industry and contractors. David is an IICRC Certified Senior Carpet Inspector, Master Cleaning Technician, Master Restoration Technician, an RIA Certified Restorer (CR) and a Certified Mechanical Hygienist (CMH). As an IICRC-approved instructor, he teaches the Dri-Eaz Three-Day Water Damage Restoration course, Restorative Drying 301 course, Documentation 301 Digital Photography, and Microbial Remediation 101.