



GO-TO GUIDE & PROFESSIONAL TIPS

WATER DAMAGE BASICS

FACILITY MANAGERS | PROPERTY MANAGERS
RISK MANAGERS | INSURANCE ADJUSTERS

A background image consisting of numerous red water droplets of various sizes on a dark red, textured surface. The droplets are highly reflective, creating bright highlights and shadows.

WATER



Flooding and water intrusion caused by Hurricane Harvey.



COMMON CAUSES OF WATER DAMAGE

- Water Lines (Failures, Leaks, Freezing)
- Sprinkler System Malfunction
- Construction Defects
- Tub and Sink Overflows
- Defective Appliances and Fixtures
- Sewer Back-flows
- Fire Suppression Discharge
- Vandalism
- Rainwater Intrusion / Flooding

Are You Prepared?

Water is a destructive force. Just a slow water leak can cause frustration and leave you with a big headache. Imagine something even more significant, like a major flood or devastating fire. The draining effects of water damage can take a toll on your business. Would you be ready?

Could you put your business on hold or, even worse, close the doors? Employees would no longer have jobs and incomes, customers would find other providers, revenues would rapidly shrink and the reputation of your business could be forever forfeited.

Maybe you don't worry about it so much. After all, you have a maintenance team or you know a guy that knows a guy. Think again. In most cases, your insurance company will require you to seek the advice and service of a professional restoration team to repair the damage.

The first 24 to 48 hours are crucial. *You really cannot afford to wait nor can you afford to make well-intentioned but hasty decisions.* Having a solid emergency disaster plan already in place is really the best and most responsible thing that you can do.

Where Do You Start?

You already have a lot on your plate. What should you do first? Where should you turn for help?

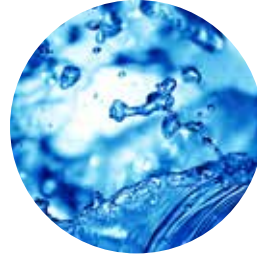
To prevent any further damage, it's important to educate yourself on the basics of water damage. *There's a lot more to it than you may think.*

This guide is designed to help. A quick review of the basics will enable you to manage the crisis and better understand the process of restoring your business operations.

Inside, you'll find out:

- How to identify the different categories of water and what factors determine your next steps;
- Basic steps to take when water damages your property;
- Key things to consider *before and after* water damage;
- How to seek the best professional help in your area.

Categories of Water



CATEGORY 1 - CLEAN WATER

- Fresh and Clean
- Drinkable
- Sources: Faucet, Supply Line



CATEGORY 2 - GREY WATER

- Significant Amount of Contamination
- Can Cause Discomfort or Sickness
- Sources: Bathtub, Toilet Water (No Feces)



CATEGORY 3 - BLACK WATER

- Grossly Unsanitary, Contains Pathogenic Agents
- Can Cause Discomfort or Sickness
- Sources: Flood Water, Sewage Backup

CATEGORY 1 - CLEAN WATER

If water damage in your facility or building comes from a faucet or water line, there is less risk of contamination - especially if the cleanup process takes place within 24 to 48 hours. There are also less health risks associated with clean water damage.

If the problem is not handled in an efficient manner, clean water can become contaminated. Plus, the risk of mold growth increases.

RECOMMENDATION:

Clean and/or mitigate damage as soon as possible, within 24-48 hours. If the water damage is not too extensive and is attended to immediately, clean water can often be dried by your maintenance staff without any further assistance.

CATEGORY 2 - GREY WATER

It is important to seek professional help when grey water floods your building because of significant amounts of contamination. It is likely that the water has affected floors, walls and contents within the building space.

The presence of moisture and warm temperatures lead to a higher risk of mold growth.

Exposure to grey water can also result in more health-associated risks.

RECOMMENDATION:

Seek assistance from a qualified restoration company.

CATEGORY 3 - BLACK WATER

Black water, such as sewage or flood waters, is grossly unsanitary and unhealthy. This is the worst type of water damage. The financial risks are huge.

RECOMMENDATION:

Contact a professional restoration company immediately.

With zero time to waste, it is wise to have a service agreement in place before the disaster.

INDUSTRY STANDARDS AND GUIDELINES

The IICRC sets the industry standards and guidelines for restoration contractors to follow when performing water damage restoration.

The Tools and Science Of Psychrometry

What is Psychrometry and why would I need to know about it? Structural drying is a scientific process called Psychrometry that requires professional water damage training and the use of specialized instruments. It is very site-specific and one size never fits all. Even with proper drying equipment in place, carpet can take 24 hours or more to dry. Moderately wet drywall can take 1-3 days. Hardwood flooring, plaster, concrete and wood may require 7-10 days to dry. Contractors and claims professionals that promise to dry buildings in three days are probably ignoring scientific principles and standards.

When determining what it will take to dry your property, mathematical formulas are used that take into account the amount and extent of water damage. Dehumidification equipment removes moisture from the air and prevents secondary water damage.

COMMON WAYS TO DEAL WITH THE DAMAGE

Common ways to restore your building back to its normal operations after water damage can include:

- Removing standing water and recovering assets;
- Moisture readings and documentation
- Non-invasive plumbing leak detection
- Drying of buildings
- Disinfection to destroy microbial growth
- Odor neutralization
- Stabilization of machinery, equipment, furniture, appliances, files and documents.



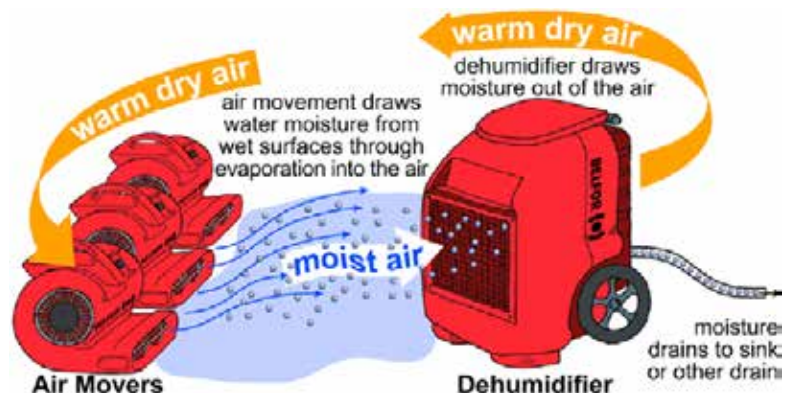
TOOLS OF THE TRADE

- Thermal & Infrared Cameras
- Moisture Meters
- Extraction Equipment
- Dehumidifiers
- Air Movers
- Hand Tools and Safety Equipment

RESTORATION PROCESS

Structural damage to the building and its contents are evaluated using three criteria:

- Extent of Damage
- Degree of Contamination
- Replacement vs. Restoration Costs



Temperature and Humidity



WET AND MOIST - DISASTROUS COMBINATION

The temperature and relative humidity inside your building play a key role in the science and process of drying out water-damaged areas. Raising the temperature allows more moisture to be absorbed into the air which, if not removed quickly, can lead to additional secondary water damage. The key is to maintain the temperature and humidity within a narrow range - which is a balancing act best left to the professionals.

- **Temperature** - Warm air holds more moisture than cool air. Do NOT raise the temperature in your building. Do NOT open windows or doors. Contain the affected area as much as possible.
- **Relative Humidity (RH)** - When the temperature is high and the relative humidity is low, evaporation of water is rapid. When the temperature is low and the relative humidity is high, evaporation of water is slow. When relative humidity approaches 100 percent, condensation can occur on surfaces, leading to problems with mold, corrosion, decay, and other moisture-related deterioration.
- **Dehumidification** - To physically remove moisture from the air, it must be dehumidified. When airflow is increased and moisture content is lowered (dehumidification), the evaporation process is accelerated. This process can minimize or possibly eliminate condensation, warping/deterioration of furniture and building materials, mold and mildew, and cockroaches or mites that thrive in damp conditions.

01

MOST STRUCTURES ARE MAINTAINED AT 72° F AT 50-55% RH. DO NOT RAISE THE TEMPERATURE IN YOUR BUILDING.

02

LOWERING THE RH TO LESS THAN 40% WHILE MAINTAINING THE TEMPERATURE WILL ACCELERATE THE EVAPORATION PROCESS

03

SHOULD YOU USE REFRIGERANT OR DESICCANT DEHUMIDIFIERS? ASK A PRO BECAUSE EVERY SITUATION IS DIFFERENT.



KEY OBJECTIVES OF WATER DAMAGE RESTORATION

1. Health and safety of building occupants.
2. Contain the damage; prevent cross-contamination.
3. Control and remove contaminants.
4. Dry the site according to industry standards.
5. Salvage and restore valuable materials.

What To Do When You Have Water Damage

HEALTH & SAFETY

Protecting the health and safety of those in or near the building is always your first priority. Because of possible contamination, it is important to follow all safety procedures and erect safety barriers to keep unauthorized people away from affected areas. Anyone authorized to be in the affected area should wear appropriate Personal Protection Equipment (PPE) such as hard hats, masks, safety glasses, etc.

CONTAINING THE DAMAGE

If it is safe to do so, search for the source and stop it if possible. If the water source cannot be stopped, try to channel the flow of water into storage tanks or drains outside of the building. Keep in mind that there may be certain health codes and regulations for disposing of Category 2 and 3 water.

PREVENTING CROSS-CONTAMINATION

Prevent further contamination to the building by sealing off affected areas if it is safe to do so.

If contamination is caused by Category 2 or 3 water, health and environmental issues such as air quality and bacterial contamination will need to be considered.

You may also need to isolate or shut off HVAC systems to prevent the spread of contaminants.

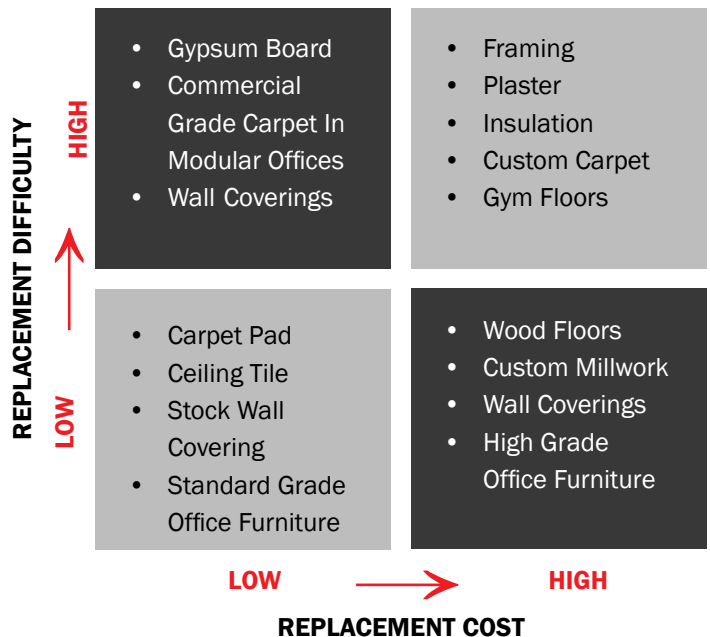
SALVAGING WHAT YOU CAN

Is it possible to save any materials in the building? Would it be more cost-effective to keep them or replace them? Can anything be restored back to its pre-loss condition? Yes, no and maybe.

There may be materials with limited damage that can be dried, saved and re-used. Some may require a great deal of cleaning and sanitizing, while others will end up being a total loss.

Hygroscopic materials (insulation, wood framing, drywall, hardwood and laminate floors, cabinets, and paper wall coverings, for example) rapidly absorb moisture. You must determine what can be salvaged vs. what needs to be replaced.

DRY IT OR REPLACE IT?



Even if you have maintenance personnel for your building, it is highly recommended that you contact a professional water damage restoration company for assistance.

What To Do When You Have Water Damage

DRYWALL & PLASTER

Drywall can be salvaged but you must act fast. A moisture meter should be used to assess the condition of the drywall. If it still has structural integrity, trapped water behind the drywall can be released by cutting weep holes. For optimal drying results, it is best to remove sections of the drywall along with any wet insulation. Painted plaster walls are more difficult to salvage and need to be assessed by a professional restoration contractor.

WALL COVERINGS

Vinyl wall covering will need to be removed so that the wall can be dried. Paper or cloth wall coverings can usually be dried in place but are susceptible to staining.

COVE BASE MOLDING

It is usually more cost effective to replace standard grade molding. For more expensive moldings, you may choose to carefully remove them from the wall, dry and clean them.

TILES - CEILING & FLOORING

If exposed to water, replace all ceiling tiles. Floor tiles are usually waterproof but the adhesive and grout that holds the tiles in place may not be. Any cracks or deterioration in the grout can cause water to seep under your flooring, causing further damage.

CARPET

In most situations, the best thing to do is replace the carpet and its padding. If it has taken more than 48 hours, or if your building was flooded with Category 2 or 3 water, you should always replace

them. If you do decide to salvage the carpet, it is best to have it professionally cleaned and sanitized.

RUGS

Rugs are different. Depending on the severity of the damage and the contamination of the water, most rugs can be removed, dried, professionally-cleaned and sanitized.

FURNITURE & VALUABLES

There are a number of ways to help salvage furniture and valuables from exposure to water damage.

- Remove soaked objects (furniture, curtains, rugs, etc.) as soon as it is safe to do so.
- Remove small furnishings and valuables from the building.
- Place small items on tables or counters higher than the water level.
- Raise furniture and insert plastic wedges or styrofoam blocks underneath to prevent moisture wicking up from below.
- Pack wet books and documents in a cardboard box lined with a plastic trash bag.
- Wrap valuable bound materials in wax paper to prevent color transfer.
- Freeze any wet books or documents as quickly as possible. A refrigerator freezer or upright/chest freezer can be used.
- Begin drying as soon as possible. It is best to use a professional restoration company because some items may be damaged if dried using the wrong techniques.
- Maintain a good inventory of all wet materials.
- Document the damage with photographs and written records.

What To Do When You Have Water Damage

COMPUTERS & ELECTRONICS

Switch off and do not operate electronic devices and equipment until it is safe to do so. Cover with plastic sheeting or remove from affected areas. Apply corrosion prevention agents to machinery and technical equipment.

TIPS ON WHAT TO DO AFTER FLOODING

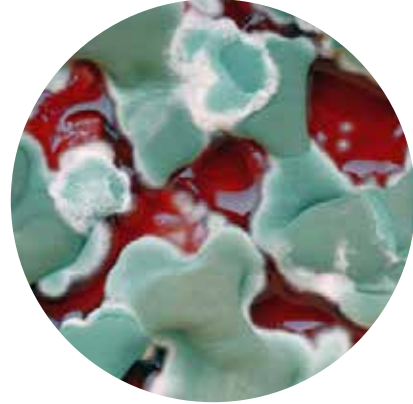
- Remove excess water by mopping and blotting.
- Wipe excess water from wood furniture.
- Remove wet carpet, upholstery and cushions.
- If you can, turn air conditioning on for maximum drying in summer.
- Remove art objects to a safe, dry place.

TIPS ON WHAT NOT TO DO AFTER FLOODING

- Do not leave wet fabrics in place. Hang furs and leather goods.
- Do not leave books, magazines or other colored items on wet carpet or floors.
- Do not use household vacuums to remove water.
- Do not turn on ceiling fixtures if the ceiling is wet, and keep out of rooms where ceilings are sagging.

CONTACT YOUR INSURANCE COMPANY

Contact your insurance company immediately so that cleanup and repair efforts can begin as soon as possible.



PREVENT MICROBIAL GROWTH

If your building has had water damage or moisture issues, dangerous mold growth can become a big problem. Mold can begin to grow within 12-24 hours and become visible within 72 hours.

If given the opportunity, mold can quickly grow and become a serious air quality problem

If moisture is the essential ingredient for mold growth, it seems it would be easy to prevent mold simply by removing water and moisture. Even in the most obvious scenario such as a flood, this is not always possible.

Mold remediation is a specialized process requiring a unique combination of training and ability.

The planned response should include the services of a mold expert and an experienced restoration contractor who can perform the initial assessment and the recommended remediation procedures.

Questions To Ask About Your Water Damage

Start by asking yourself these questions about damage to your property:

1. Are there any potential health or safety risks? Have the hazards been adequately mitigated or contained?
2. Have you notified your insurance company?
3. Have you contacted a professional, certified restoration company or contractor?
3. Is the power still on in the building? It should be turned off to prevent electrical shock hazards.
3. Are there any valuable contents, documents, machinery or equipment that need to be removed and protected immediately?
4. What is the source of the water and has it been stopped? What category of water has damaged your property?
5. How much of the building is affected? Approximate square or linear footage?
6. What types of building material are damaged? Can they be saved?
7. Can the building be occupied during the cleanup process? Does temporary office, housing or storage space need to be retained?
8. Are there any unusual requirements for restoring the building and/or its contents to their pre-loss or better condition?
9. Are there any federal or local regulations that must be considered?
10. Have you documented the loss?

WHAT TO KEEP IN OFF-SITE STORAGE

- Emergency Contacts and Phone Numbers
- Spare Keys and Access Cards
- Building Evacuation and Emergency Plans
- Essential Records/Data
- Inventory List
- Copy of Insurance Policy
- Copy of Disaster Recovery Services Contract

KNOW YOUR BUILDING

Document the location of the following emergency systems:

- Main Water Shut-Off Valve
- Sprinkler Shut-Off Valve
- Main Electrical Shut-Off
- Main Gas Shut-Off
- Heating and Cooling System Controls
- Fire Suppression Systems (by room or area)
- Water Detectors
- Fire Extinguishers
- Fire Alarm Pull Boxes
- Smoke and Heat Detectors
- Key Boxes (Master Keys)
- 2-Way Radios or Communication Devices
- Fireproof Safe

When It's Time To Ask The **Professionals**

So, you have a maintenance staff and you know the basics of water. Just how hard could it be to fix the problem and repair the damage? You should always be cautious. It's better to have the reassurance of professionals than to face serious health, safety or structural concerns in the future.

DIY DAMAGE REPAIR

- Acceptable for small amount of Category 1 water - not too deep
- Relatively easy to clean
- Able to respond and complete cleanup work within 24 hours
- No serious structural damage
- Little or no reconstruction required

FIND A PRO

- Recommended for Category 2 or 3 water
- Excessive amounts of water and unknown damages requiring professional equipment
- Required or needed to meet health and safety regulations
- Reconstruction is required



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