

# Minimizing Water Damage from Water Heaters

## Introduction

Short of fire, nothing causes more damage to the inside of a property than leaking water. It is estimated that water from failing pipes, hoses, plumbing fixtures and appliances cause 65% of the property damage to community associations.

This guide addresses water heaters, a leading cause of residential water damage. Our research shows that there are simple and inexpensive steps associations can take to prevent most of this damage.

### How do Water Heaters Fail?

A water heater holds and transfers water continuously — from installation to replacement or failure. Over time, deposits will accumulate on the bottom of the tank. These deposits corrode the tank liner and heater elements. Water quality, particularly water hardness, directly influences the amount of sediment deposited.

Moving water also causes wear on the tank and piping. The hotter the water, the greater the fatigue on the parts it touches. The constant heating of cold water also subjects the unit to extreme temperature swings. No household appliance works under tougher conditions than the storage water heater.

In most cases, water heaters fail gradually, but not always. Some of the telltale signs of imminent failure include water accumulation beneath the heater, a hissing or whistling sound characteristic of a worn valve, and chronic hot water shortages during periods of normal demand. Prompt corrective action is required once the signs of failure appear.

When the corroded bottom of a tank fails without warning, the water already in the tank and the continuously fed cold-water supply create a deluge. If not stopped, this water will continue to flow. In these cases, it's crucial to stop the flow of water by turning off the cold-water supply valve at the water heater or at the water main shut-off.

### What CAU Recommends:

- > Encourage and remind residents to check their water heaters for leaks and other telltale signs of failure on a regular basis.
- > Establish a formal and documented association inspection program for water heaters.
- > Implement and enforce a mandatory replacement program for water heaters.
- > Require residents to equip water heaters with catch pans and drains.
- > Encourage the use of an ASOV for water heaters.
- > Remind all residents to know the location of the water main shut off to their residence and how to use it.

### Need More Information?

The devices discussed in this guide are available at plumbing supply houses, home improvement centers and at several on-line outlets. Associations can also contact CAU's Loss Control Department for additional information.

Associations can obtain a sample water heater replacement resolution and resident notification letters by contacting CAU's Loss Control Department. These documents are intended to guide Board members in drafting their own similar resolution, introduce the program to all residents and follow-up with residents who have not complied as of the compliance date.

Your legal advisor should review any resolution before it is proposed.

## Water Heater Inspection and Replacement Programs

A good first step toward minimizing the chance of a water heater failure is regular inspection by residents. If residents detect any sign of failure, they need to contact a licensed and insured plumber promptly and have the heater replaced. The association should also have an annual inspection program for water heaters and maintain a record of inspections.

A diligently managed replacement program for water heaters is an asset to any community. You cannot repair a failed water heater. You can only replace it. When replacing water heaters, record the installation date on the body of the unit or on a tag attached to the feeder pipe.

Storage water heaters have an expected life span between five and ten years. That is why it is good to have a strong program to replace heaters before their life expectancy is up.

## Ways to Minimize Potential Water Damage

Residents can take several steps to minimize the damage from a failed water heater before a loss occurs.

Installing a catch pan with a drain connected to a waste line, sump pump or other means of channeling water out of the building will help in the event of a small leak. The pan and drain should be large enough to keep water from rising and contacting any electrical or gas controls in the heater and should allow for access to controls mounted on the water heater.

There is an automatic shut off valve (ASOV) readily available for nearly every residential appliance that uses water. An ASOV for storage water heaters uses a water sensor linked to a water-controlling valve mounted to the heater's cold water supply.

When the sensor detects water beneath the

heater, the valve automatically stops the flow of water to the heater. This device can prevent damage from a slow leak and limit the damage from a tank failure to the contents of the tank. ASOV devices retail for around \$100 plus installation.

Another popular ASOV—a Water and Gas Safety Valve (WAGS)—will simultaneously shut off the water and gas supply when it detects a leak. The WAGS valve is located in a drain pan beneath the water heater. The company also sells a foam “water dam” that can be placed around the water heater in lieu of a drain pan. The WAGS device retails for around \$200 plus installation.

Water alarms are also available from several manufacturers. These devices will not prevent damage but may alert a resident to a leak or failure. The catch: the resident must be there to hear the alarm and respond to the situation.

On demand or instantaneous water heaters are becoming more popular. These devices eliminate the traditional storage tank and heat water directly when there is a call for hot water. Installation can be expensive, and there often is not enough capacity for large, simultaneous demands for hot water.

## Conclusion

Water is the most insidious and relentless of property destroyers, ruining more property than fire. *The only solution is prevention. Implementing the suggestions in this guide can minimize this threat and add years of useful life, safety and value to property.*

Associations that take prompt, effective action to prevent water damage do more than preserve their property. They relieve some of the financial pressure on their maintenance budgets and reserve replacement funds. In addition, they avoid large, special assessments for the unanticipated, early replacement of major building elements!