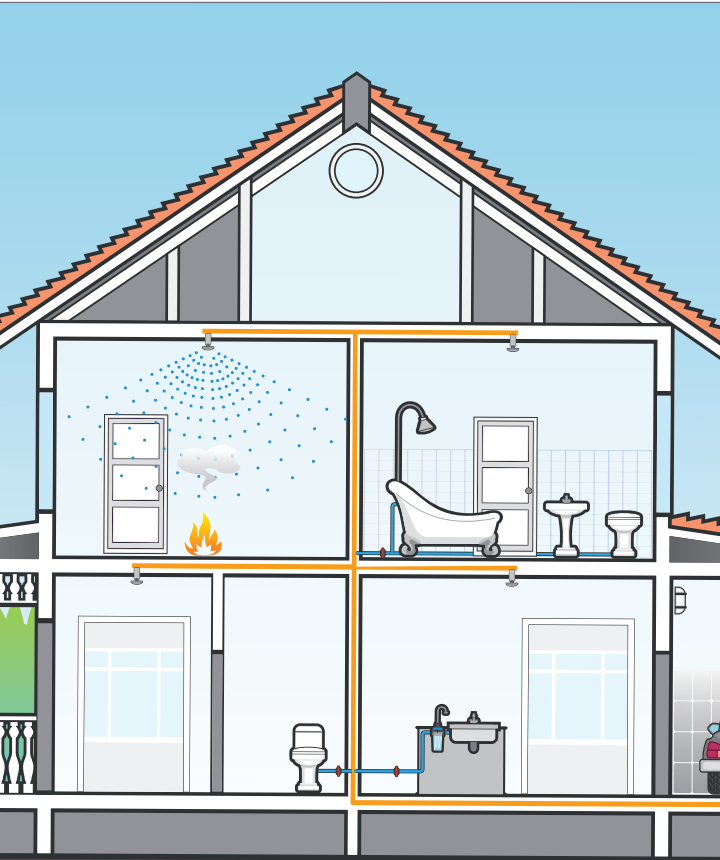


The Benefits of Home Fire Sprinklers

IN ONE- AND TWO-FAMILY HOMES



 **MASSACHUSETTS**
FIRE SPRINKLER
COALITION

In association with

  **FIRE SPRINKLER
INITIATIVE**
Bringing Safety Home

Understanding Fire Sprinkler Protection for Homes

Fire kills more people in the United States annually than all natural disasters combined. Ironically, most fire deaths occur in the very place where we feel safest — our own homes. Those at highest risk are very young children, older adults and people with disabilities, who may have difficulty making a quick escape.

Home fire sprinklers provide powerful protection from fire. They work automatically and immediately, before a fire spreads.

DO SPRINKLERS REALLY SAVE LIVES?

Yes. Sprinklers are the most effective fire safety devices ever invented. The National Fire Protection Association reports that working smoke alarms cut the risk of dying in a home fire in half. Having both sprinklers and smoke alarms installed reduces the risk of dying in a home fire by about 80%.

DO SPRINKLERS SAVE PROPERTY?

Yes. Home fire sprinklers are designed to save lives. Because they control fires so quickly, they also reduce property damage. According to the National Fire Protection Association (NFPA), sprinklers reduce direct property damage by about 70 percent per fire.




In a home fire
you have less than
3 minutes to escape.



Fire sprinklers can
stop a fire in less than
1½ minutes.



Saving
you,
your family
and your property.



Deceptive Myths

SPRINKLERS LEAK

FALSE! Sprinklers and their piping are pressure-tested to the same level as your plumbing system. Like your plumbing pipes, sprinkler pipes are not supposed to be exposed to cold areas. Additionally, unlike faucets and other fixtures that are in constant use, fire sprinklers remain closed until needed and do not get the wear and tear of daily use.

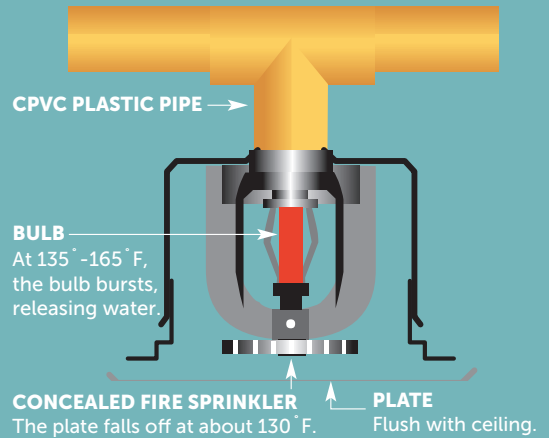
ALL THE SPRINKLERS IN THE ROOM ACTIVATE AT ONCE

FALSE! Heat from a fire will only activate the sprinkler closest to the fire. Typically, there is not enough heat to activate other sprinklers.

So why, then, do people think that all of the sprinklers in the room activate at the same time?

There are two reasons. First, Hollywood gag writers show all of them activating for comic or dramatic effect. Movies and TV shows have shown all sprinklers going off from

A sprinkler covers a minimum 12 x 12 foot area. Extended coverage sprinklers can cover a maximum area of 20 x 20 feet.



someone merely lighting a cigarette or pulling a fire alarm switch. In reality, those actions cannot activate sprinklers.

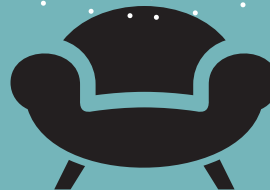
Many people also believe smoke activates the sprinkler. They have seen smoke spread throughout a room, so they conclude that smoke will affect all the sprinklers in the room. Only heat, not smoke, can activate a sprinkler, and only a fire can generate enough heat to do so. All of the sprinklers in a home will not activate at the same time, even in a smoke-filled room.



Each sprinkler protects an area below, and when heated by fire, activates.



Only the sprinkler closest to the fire will activate, spraying water directly on the fire.



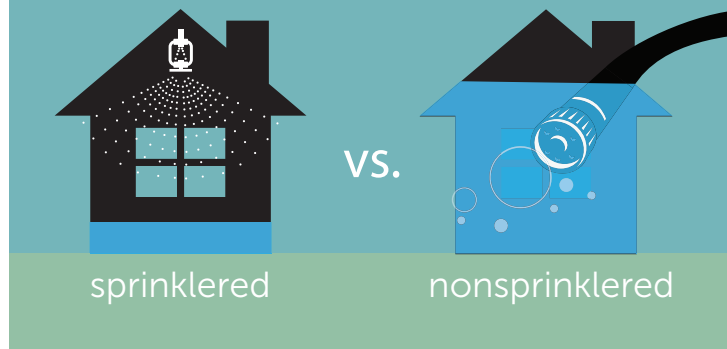
Deceptive Myths

WATER WILL CREATE MORE DAMAGE THAN THE FIRE.

FALSE! One of the myths about sprinklers is that they cause water damage. While this seems logical, the reverse is actually true. A home fire sprinkler sprays about 13-18 gallons of water per minute and is designed to operate early in a fire. The hoses used by firefighters use ten times that amount of water, 250 gallons per minute. If sprinklers are not present, fires typically burn until firefighters arrive. Two things happen to cause more damage in unsprinklered homes. First, more of the home and contents are destroyed before the firefighters can intervene. Second, much more water is being discharged at a very high pressure on the remaining property.

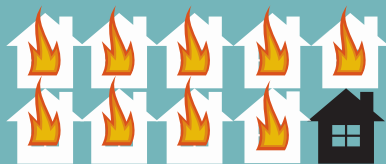
The combination of a sprinkler's quick response, lesser water flow, and lower pressure significantly reduces property

Reduced Water Damage



damage. Fires unchecked by sprinklers also destroy property. Think about it. A wet sofa can be dried and cleaned. A sofa burned in a fire is gone. This is also true for property that has sentimental value such as portraits, photographs, heirlooms or antiques. Without sprinklers, the heat and smoke damages furniture, furnishings, and possessions as it spreads unimpeded throughout the house. When sprinkler protection is provided, the nearest sprinkler stops the fire before it can develop into a catastrophic incident.

\$8 Billion in Property Loss in Home Structures*



9/10

structure fire deaths happen at home

young children older adults and people with disabilities are at the greatest risk



Benefits

Massachusetts Fire Deaths and Injuries 2009-2018

INSURANCE PREMIUMS

Although a review of the insurance policies associated with several major insurance carriers identified a wide variance in the industry, discounts can range from 5% to 45% depending on the design of the fire sprinklers and the areas protected. The higher discounts are more likely available when sprinkler protection is combined with other features such as smoke detection and system monitoring. Surveys of the local insurance industry indicate the majority of insurance carriers will offer some type of discount, with the average being approximately 10% for approved home fire sprinkler protection.

LESSER LOSS FROM A FIRE

Many communities across the U.S. are seeing impressive results from installing home fire sprinklers in all newly built homes. In Scottsdale, Arizona, fire sprinklers have been required in all new homes since 1986. Today, more than half the homes in Scottsdale are protected with sprinklers. A 15-year study of fire loss concluded that the average fire loss per sprinklered incident was \$2,166 compared to more than \$45,000 loss per fire in homes without fire sprinklers.

In Prince George's County, Maryland, fire sprinklers have been required since 1992. The report, "Benefits of Residential Fire Sprinklers: Prince George's County 15-Year History with its Single-Family Residential Dwelling Fire Sprinkler Ordinance," concluded that the damages were more than



83% of total fire deaths occurred in residential dwellings

236 people died in one- and two-family home fires with no fire sprinklers

1151 civilian injuries in one- and two-family home fires with no fire sprinklers

0 home fire deaths in homes protected with fire sprinklers

Source: Massachusetts Fire Incident Reporting System

double in homes without sprinklers: \$9,983 on average, compared with an average of \$4,883 per incident in homes protected with sprinklers.

PEACE OF MIND

There is tremendous confidence in fire sprinklers based on an almost perfect success record. Massachusetts requires fire sprinklers in newly built townhomes, "mega mansions" over 14,400 square feet, homes four stories tall or more, and multi-unit housing with three or more units. From 2009-2018, 83 percent of all fire deaths were in residential dwellings. However, there were no deaths in homes protected by fire sprinklers.

Are Sprinklers Affordable?

Care and Upkeep

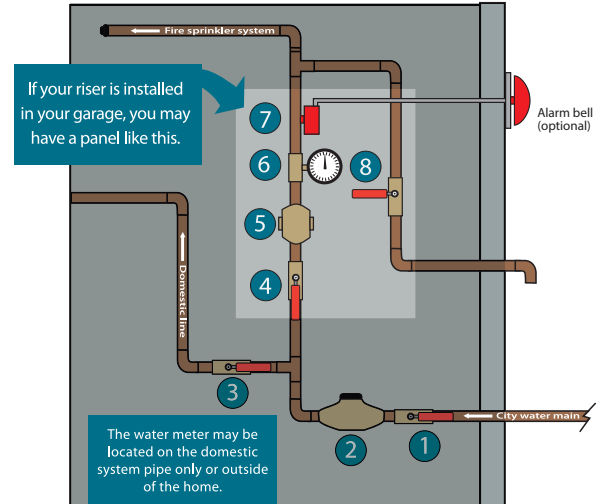
Fire sprinklers add about 1.5% to the cost of a new home. This is about the same cost as an upgrade to the carpeting. But carpets often are replaced every 10 years, while fire sprinklers last for the life of the home. Compared with the cost of carpeting and other decorating expenses, fire sprinklers give you peace of mind for a bargain price.

Costs can vary depending on a number of construction factors. The National Fire Protection Association reports that the average cost to homebuilders, in dollars per sprinklered square foot, has decreased to \$1.35 in 2013. They attribute this downward drive of the cost of home fire sprinklers to increased demand and cheaper materials.

The 2013 study shows the wide spread requirement has lowered the cost to \$1.16 per square foot in California and Maryland where sprinklers are required. A 2018 study of the impact of requiring fire sprinklers in new 1- and 2-family homes in California, starting in 2011, shows no negative impact on housing starts.

Home fire sprinklers require very little maintenance.

- A water flow test should be conducted at least twice a year. It's a simple test that can be done by the homeowner or a fire sprinkler contractor.
- Check occasionally to make sure the water valve is turned on. (Keeping the valve padlocked in the "on" position is a good idea. Hang the key nearby.)



1. Main Control Valve
2. Water Meter
3. Domestic Control Valve
4. Sprinkler Control Valve
5. Check Valve or Backflow Valve
6. Pressure Gauge
7. Flow Switch for Alarm
8. Flow Test Control Valve (Inspector Test Valve)

- Know the location of the main valve so it can very simply be visually inspected. Check the pipes and sprinklers to make sure nothing is hanging from them or obstructing them.
- Do not paint any part of your sprinkler system.

Homeowners may also hire a sprinkler contractor to perform maintenance services. Sprinkler contractors are licensed by the Massachusetts Bureau of Pipefitters, Refrigeration Technicians and Sprinklerfitters. Ask if they have experience with residential installations. Look up licenses online at <https://madpl.mylicense.com/Verification>.



Home Fire Sprinkler[®]

C O A L I T I O N

Protect What You Value Most[™]

HomeFireSprinkler.org

The Home Fire Sprinkler Coalition is a charitable organization and the leading resource for independent, noncommercial information about home fire sprinklers. The Home Fire Sprinkler Coalition offers educational material with details about installed home fire sprinklers, how they work, why they provide affordable protection and answers to common myths and misconceptions about their operation.

Visit the Home Fire Sprinkler Coalition website at **HomeFireSprinkler.org**.

The Massachusetts Fire Sprinkler Coalition is dedicated to promoting home fire sprinklers. This voluntary coalition is a resource for information about home fire sprinklers in the Commonwealth of Massachusetts. The coalition actively works to educate stakeholder groups on home fire sprinklers and collaborates with key state fire service organizations to address and overcome barriers to home fire sprinkler requirements.

For more information or to join the coalition, visit **FireSprinklerInitiative.org/Massachusetts** or contact **Chair Paul Zbikowski** at **978-424-8793**.

For further questions contact the **Massachusetts Department of Fire Services** at **978-567-3100**.

