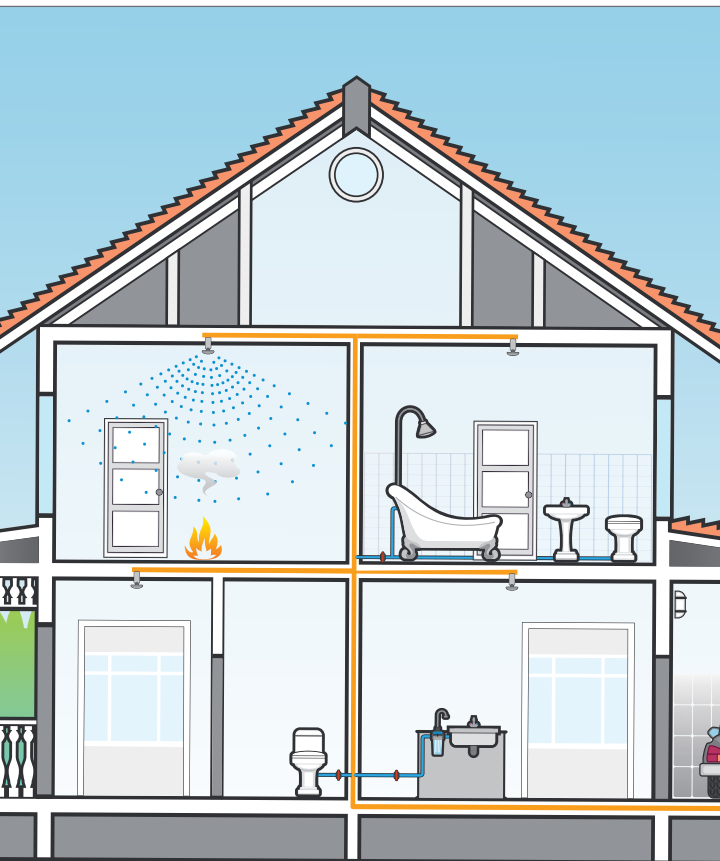


The Benefits of Home Fire Sprinklers

IN ONE- AND TWO-FAMILY DWELLINGS



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 and older adults, who may have difficulty making a quick escape.

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

DO SPRINKLERS REALLY SAVE LIVES?

Sprinklers are the most effective fire safety devices ever invented. The National Fire Protection Association reports that people with smoke alarms in their homes have a 50% better chance of surviving a fire. Adding sprinklers to your smoke alarms increases your chances of surviving a fire by over 97%.

DO SPRINKLERS SAVE PROPERTY?

Home fire sprinklers are of the quick-response type which means they are designed to save lives. Since they control fires so quickly, they also reduce damage to the property and other valuables. Fire reports nationwide show that property damage is nine times lower in sprinklered homes.



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



Fire sprinklers can stop a fire in less than minutes.

1½



Saving
you,
your family
and your property.



Deceptive Myths

“SPRINKLERS LEAK.”

FALSE! Sprinklers and their piping are pressure-tested to at least the same level as your plumbing system. Therefore, the chance of a leaking sprinkler is practically nil. Like your plumbing pipes, sprinkler pipes are not exposed to cold areas so they are protected from freezing. Additionally, unlike faucets and other fixtures that are operated often throughout their lives, fire sprinklers remain closed until needed and do not receive the wear and tear of daily use.

“ALL THE SPRINKLERS IN THE ROOM GO OFF.”

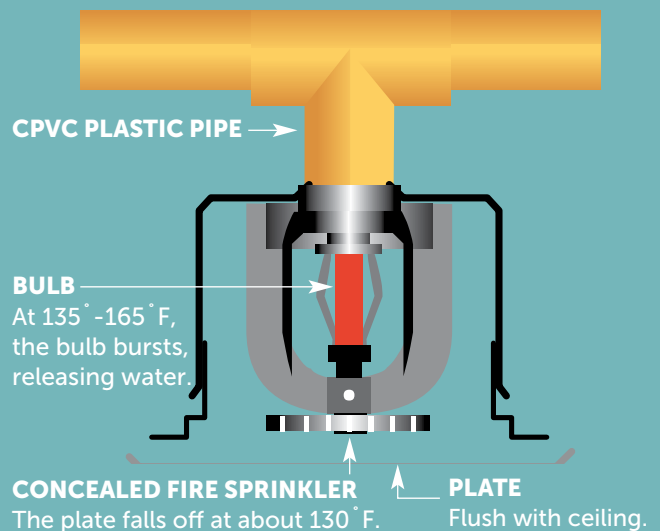
FALSE! Heat from a fire will open the nearest sprinkler. Its water then cools the hot fire gases, making it unlikely for other sprinklers to open. In nearly all cases there is not enough heat to open the next nearest sprinkler. In the rare case that the heat is too much for the nearest sprinkler, the next nearest sprinkler will open to overcome the fire. The operation of more than one sprinkler occurs in a small percentage of commercial buildings, but is very unlikely in homes. Only the sprinklers necessary to stop the fire will operate, and fire records show that it usually takes just one.

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

There are two reasons. First, Hollywood gag writers show all of them going off for comic effect. They have shown this happening from someone merely lighting a cigar or pulling a fire alarm switch. Those actions cannot even make one sprinkler open, let alone all of them.

The second reason is that a lot of people mistakenly think that smoke will open a sprinkler. They have seen smoke spread throughout a room, so they conclude that smoke will affect all of the sprinklers in the room. But once people understand that only heat can open a sprinkler and only a threatening fire can generate enough heat to open a sprinkler, they understand that all of the sprinklers won't open at the same time, even in a smoke filled room.

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



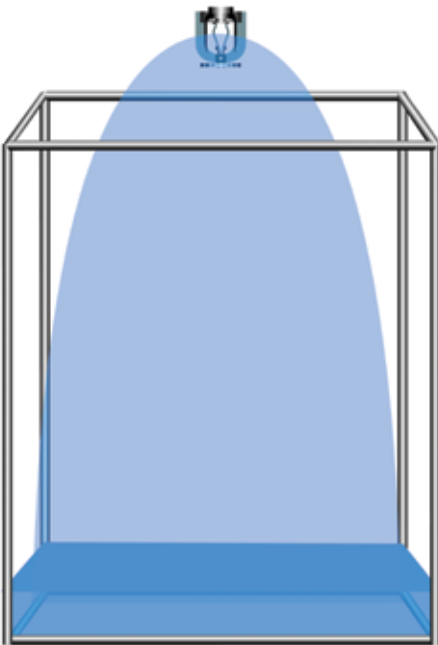
Deceptive Myths

“WATER WILL CREATE MORE DAMAGE THAN THE FIRE.”

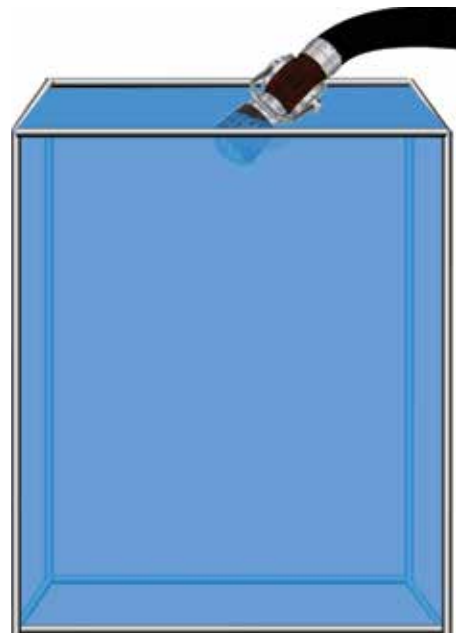
FALSE! One of the myths about sprinklers is that they will cause water damage. While this may seem logical, fire records show that the reverse is actually true. A residential sprinkler sprays about only 13 to 18 gallons of water per minute and is designed to operate early in a fire to control the fire. The hoses used by firefighters flow ten times that amount, 250 gallons per minute. If sprinklers are not present, fires typically burn until firefighters arrive. Two things happen to cause more damage than a sprinkler. First, more of your possessions have already been destroyed before the firefighters intervened,

and then you have much more water being discharged at a very high pressure on your remaining property.

It is the combination of the sprinkler’s quick response, the smaller water flow, and the lower pressure that significantly reduces property damage. Also, there is less recovery potential. Think about it. A wet sofa can be dried and cleaned as opposed to one that is consumed in a fire. This is even more critical when the possessions that are burned in a fire have sentimental value such as portraits, photographs, heirlooms or antiques. Without sprinklers, the heat and smoke damages furniture, furnishing, 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.



Sprinkler
18 Gallons of Water/Minute



Fire Hose
250 Gallons of Water/Minute

Benefits

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 system and the areas to be protected. The higher discounts are more likely available when sprinkler protection is combined with other features like smoke detection, monitoring of the systems, installation of fire extinguishers, and deadbolt locks. 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 residential sprinkler system protection.

LESSER LOSS FROM A FIRE

The United States Fire Administration, National Fire Protection Association, Sentry Insurance, Factory Mutual and others conducted actual, real-life fire testing, known as the Scottsdale tests, in order to ascertain the difference between fire damage losses in homes that were sprinkler protected and fire damage losses in homes that were not protected by sprinklers. In conclusion, the tests were a major success for the insurance, sprinkler, and fire protection industries. It was estimated that there was a property savings of 85.2% due to the ability of the fire sprinklers to control the incidents. The property loss in the sprinklered fires was estimated at \$17,200. The estimated loss without the sprinklers averaged \$116,000, a difference of \$98,800.

Deaths and Fire-Related Injuries



89% of Total Fire Deaths Occurred in Residential Dwellings

101 people in single-family and townhouse fires with no fire sprinklers

328 civilian injuries in single-family and townhouse fires with no fire sprinklers

0 fire deaths in homes protected with fire sprinklers

Prince George's County 15-Year History with its Single-Family Residential Dwelling Fire Sprinkler Ordinance. 2009.

PEACE OF MIND

There is tremendous confidence in these systems that boosts an almost perfect success record. One such study conducted regionally that corroborates this reputation is Prince George's County in Maryland. Fifteen years after it had enacted legislation requiring sprinklers in new homes, they produced a report. The report states that there were 13,494 fires in single family dwellings where 101 persons died and 328 were injured in the dwellings that were not sprinklered but no one died and only 6 were injured in those that were sprinklered.

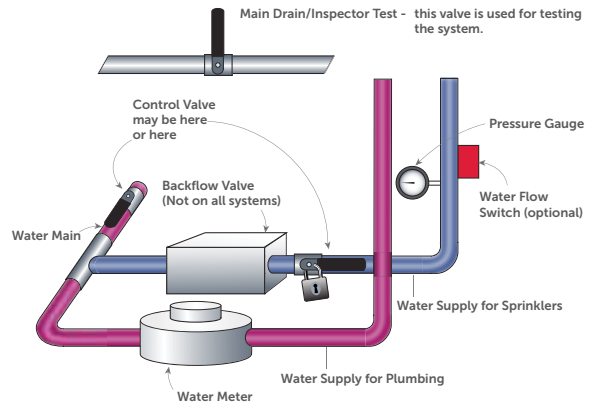
Are Sprinklers Affordable?

Care and Upkeep

Fire sprinklers add about 1% 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 ten years, while fire sprinklers last for the life of the home. Compared with the cost of carpeting, fire sprinklers give you peace of mind for a bargain price.

For instance, in Delaware, a new 2,000 square-foot, 2-story, 4-bedroom single-family home that would cost \$300,000 to build would cost \$303,500 if equipped with automatic sprinklers. A smaller 1-story, 3-bedroom home (1,400 square feet) would cost \$190,000 to build and would cost \$192,500 if sprinklered. These figures equate to a range of \$1.75 to \$1.80 per square foot.

Costs can vary with a number of construction factors. The National Fire Protection Association studies have reported that nationally 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. Regionally, Maryland conducted a cost analysis in 2015 that indicated the average cost per square foot was \$1.44 with figures ranging from \$0.95 to \$2.25 per square foot.



A home sprinkler system is relatively maintenance free. There are a few simple items that are recommended and they can be accomplished by the homeowner.

The most important items include the following:

- Keeping the main water valve open is essential.
 - It is important to know the location of the main valve so it can very simply be inspected visually.
- Not hanging items from the sprinklers, and
- Making sure that the sprinklers do not get painted or obstructed.

A homeowner may also opt to employ the services of a sprinkler contractor who performs maintenance services professionally. Presently, the Office of the State Fire Marshal certifies numerous individuals that work for licensed companies that conduct this type of maintenance and can be found on our webpage at <http://statefiremarshal.delaware.gov/pdfs/pubfss.pdf>



Sidewall Sprinkler



Concealed Sprinkler



Pendent Sprinkler



Home Fire Sprinkler[®]

C O A L I T I O N

Protect What You Value Most[™]

The Home Fire Sprinkler Coalition was formed in response to the tremendous need to inform the public about the life-saving value of home fire sprinkler protection. It is a charitable organization and the leading resource for independent, noncommercial information about residential fire sprinklers. The Home Fire Sprinkler Coalition offers educational material with details about installed home fire sprinkler systems, how they work, why they provide affordable protection and answers to common myths and misconceptions about their operation.

The Office of the State Fire Marshal encourages residents to contact the Home Fire Sprinkler Coalition through their homepage at **www.homefiresprinkler.org**

or call them direct at 1-877-550-4372.

For further information or questions, feel free to contact one of our offices. Our website is **statefiremarshal.delaware.gov**

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