

MARYLAND STATE FIREMEN'S ASSOCIATION

Representing the Volunteer Fire, Rescue and Emergency Medical Services Personnel



RESIDENTIAL FIRE SPRINKLERS *Questions and Answers!*

Do Sprinklers save lives?

Sprinklers are the most effective fire safety device ever invented. The National Fire Protection Association reports that people with smoke alarms in their home have a 50 percent better chance of surviving a fire. Adding sprinklers and smoke alarms increases your chances of surviving a fire by over 85 percent. Since statewide legislation was passed requiring sprinklers in newly constructed townhomes (1992), there have been **no** fire fatalities in these occupancies.

Do Sprinklers save property?

Residential fire sprinklers are designed to save lives, but because they control fires so quickly, they also reduce property damage. Fire reports nationwide show that property damage is **nine** times lower in sprinklered homes.

Are Sprinklers affordable?

Fire sprinklers add about one percent or less to the cost of a new home. This is about the same cost as upgrading 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.

Will sprinklers leak?

No! Sprinklers and their piping are pressure-tested at two to three times higher than your plumbing system, even though they use the same pressure as your plumbing. 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. They do not leak because, unlike faucets and other fixtures that are operated often throughout their lives, fire sprinklers remain closed until needed and thus do not receive the wear and tear of daily use.

Won't all the sprinklers in the room go off at the same time?

Heat from a fire will open the nearest sprinkler. Its water cools the hot fire gases, making it unlikely other sprinklers will open. Thus, 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.

(Over)

Thus, only the sprinklers necessary to stop the fire will operate, and fire records show that it usually takes just one. 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 affects all of the sprinklers in the room. But once people understand that,

- Only heat can open a sprinkler (smoke can't melt metal or burst glass) and,
- Only a threatening fire can generate enough heat to open a sprinkler,

then they understand that all of the sprinklers won't open at the same time, even in a smoky room.

Aren't they unsightly?

Residential fire sprinklers are much smaller than ones that you see in stores and offices. All residential models come in colors to match popular ceiling and wall colors, and manufacturers will even custom-paint them for you. Many models are partially recessed into the ceiling, and only 1/4"-3/4" is below the ceiling. If you want them completely recessed, these models are also available. The fully recessed models are hidden by a cover plate that is painted to match the ceiling. The cover is held in place by a metallic link that melts in a fire and exposes the sprinkler.

It is common to find that visitors do not notice the sprinklers at all unless you point them out, even the ones that are not recessed into the ceiling.

Won't the water create more damage than the fire?

One of the myths about sprinklers is that they will cause water damage. While this may seem logical (after all, they spray water), fire records show that the reverse is actually true. Here is why. A residential fire sprinkler sprays about only 10-18 gallons of water per minute and operates early in a fire to stop the burning. A hose used by firefighters flows ten times that amount, 175-200 gallons a minute. If sprinklers are not present, fires typically burn for an additional 10-15 minutes until firefighters arrive and begin spraying it with their hoses. Two things happen to cause more damage than sprinklers. First, more of your possessions have burned up before the firefighters intervened, and then you have 10 times more water being sprayed on what is left at a very high pressure.

The combination of the sprinkler's quick response, the smaller water flow and lower pressure significantly reduces water and property damage. Think about it. What is more damaged, a sofa that can be dried off (sprinklered fire) or one that has turned to ashes (manual suppression)? How about an oil painting that was protected by a fine spray (sprinklered fire) or one where all that was left was part of a frame (manual suppression)? Without sprinklers, the heat and smoke from a fire travel very quickly, damaging the furniture and possessions throughout the house. With sprinklers, the sprinkler head nearest the fire will stop it before it can develop the damaging heat and smoke.

For more information contact the Office of the State Fire Marshal: 800-525-3124