



***Be Informed and Choose Wisely***

## **RESIDENTIAL FIRE SPRINKLER FACT SHEET**

*Are Home fire Sprinklers a Reasonable Option for Your New Home?*

Residential fire sprinklers are not new technology for preserving property and promoting life safety, but the modern systems that utilize the domestic plumbing system pipes for the sprinkler water have drastically reduced the cost of the materials and simplified the installation.

Your new home may be well served by a fire sprinkler system and your builder has the capability to include a very simple sprinkler system that is highly effective in protecting your family and your property. The cost of the system is at an all time low and the systems are unquestionably reliable.

The experts all agree that fire sprinklers and smoke detectors work together to provide absolutely the safest home available today from a fire safety standpoint.

The code officials that develop the national building codes all agree that fire sprinklers need to be in all new homes and they are so convinced that they have seen fit to require sprinklers in all three model building codes in use in the USA today. Some jurisdictions have allowed the builders and home buyers to choose whether to include the sprinklers in their new

homes by creating a choice option for you and your family. By presenting this information your builder is allowing you the opportunity to develop an informed opinion concerning the needs of your family.

This educational brochure is intended to share the facts about fire sprinklers so as to better equip you in determining if you think sprinklers are a good choice for your family and your new home.

## Home Fire Sprinkler Systems

**These pictures show two identical rooms that were subjected to a fire**



*Unprotected Living Room*



*Living room protected by residential sprinklers*

According to the National Fire Protection Agency (NFPA), over half of structure fires that occurred in 2005 were in one or two-family dwellings. **Home fires caused 3,030 deaths - over 80 percent of all civilian fire deaths.** However, most of these deaths would have been prevented if a home fire sprinkler system had been installed. Combining a smoke alarm with a sprinkler system reduces the chances of dying in a fire by as much as 97 percent. Not one person has died from flashover in a sprinkled home in 25 years in the more than 400 communities in the country that already require residential sprinklers.

***Why aren't more people installing home fire sprinkler systems?*** Usually it is because of the misconceptions people have about sprinkler systems. Yet, the actuality of the home sprinkler system is quite different from what most people believe. Home sprinkler systems are often discounted as being too costly, too damaging, too ugly, or too likely to go off accidentally.

***However, these myths are simply not true.***

**What is true is that more people in this country die in home fires than all natural disasters combined.**

### Are Home Sprinklers Expensive?

#### ***Total Cost***

A home fire sprinkler system might seem like an expensive addition. It is true that residential sprinkler systems can add up to \$3.50 per square foot to new construction depending on the market where you live. When retrofitting existing homes, the costs can be as much as twice the cost of a new home system.

#### ***Monthly Cost***

If you should choose to include fire sprinklers in your new home the cost will be less than 3 cents per square foot per month in your standard mortgage. For instance an 1800 square foot home would be about \$ 5,000.00 which amounts to about \$25.00 per month in your monthly mortgage payment.

### *Insurance Discounts*

Once the insurance discounts are factored in the actual difference in your house payment should be a reasonable amount. The sprinkler system will add value to your home by investing in tangible assets rather than insurance premiums. As the home insurance inches up over the years the sprinkler system discounts continue to increase accordingly.

Once they are installed, sprinkler systems will actually save money because they will reduce your home insurance rates by 5 to 15 percent. In the event that there is a fire, they will also save money in potential damages. **The average cost of fire related damage in homes equipped with fire sprinkler systems was about \$2,100. In comparison, the average cost of damages in homes without sprinkler systems was about \$45,000.**

### *The Most Important Benefit*

Of course, what cannot be factored into this equation is the loss of items with sentimental value. However, it is easy to figure that if less damage was done to the home, less damage was done to the home's contents.

**The peace of mind that comes from knowing that your home, possessions and most of all your family is protected from the tragedy of a fire is the ultimate cost to value benefit.**

## **I Am Apprehensive About Potential or Actual Water Damage.**

### *Only the Sprinkler Closest to the Fire Deploys*

Many people worry that the water damage done by the sprinkler systems would be more extensive than the damage done by the fire and smoke. This is not true. Fire sprinklers will only go off in rooms where they are triggered by the actual fire. If there is a fire in the kitchen, a sprinkler in the bedroom will not activate. This myth is usually perpetuated in the movies and on television. Nevertheless, it is only a myth

***Sprinklers are extremely reliable and do not activate without heat and only the sprinkler closest to the fire will operate, thus the phrase “One-At-A-Time Activation”.***

In addition, sprinklers will act long before fire fighters are capable of getting there. The combination of the fire going unabated for 7 to 12 minutes combined with the water from the fire fighter's hoses is likely to cause much more damage to your home than a sprinkler system.

***Consider that a fire fighter's hose sprays about 175 gallons a minute at significantly greater pressures, while a residential sprinkler only sprays about 8-10 gallons of water per minute. Residential Sprinklers Only Discharge 8 to 10 Gallons a Minute In fact, 95 percent of the time home fires are controlled by one single sprinkler head.***

## **Shouldn't I be Concerned about Accidental or Unintentional Discharge?**

### *Every Sprinkler Head is Independently Controlled by a Thermal Link or Bulb*

Homeowners sometimes worry that a sprinkler system will go off accidentally or before they are necessary. After all, most people have accidentally set off their smoke detectors at one time or another. Why wouldn't sprinkler systems be the same way?

Well, sprinkler systems require temperatures of about 165°F to be triggered. **They are not set off by smoke.** They will never be activated by burning the toast or smoking in your home.

### *Sprinklers are Exceptionally Reliable*

More importantly, home sprinkler systems rarely go off accidentally.

### *Modern Residential Sprinklers Require No Regular Maintenance or Inspection*

Your residential sprinklers are supplied by a superior network of piping components that are proven to be very reliable. Because the sprinklers are connected to the standard plumbing water pipes they are constantly “on duty” and the system is tested every time the plumbing is used. As long as the plumbing water is working you can be assured that the sprinkler system is on line and functional.

## **Aren't the Sprinkler Heads Ugly and Unattractive?**

### ***The New Sprinklers Are Almost Imperceptible While Protecting Your Family***

If the only reason you do not want a sprinkler system in your home is that you think sprinkler heads are too ugly.

You may be unaware of the options available. Home fire sprinkler systems can look a lot different from the types installed in businesses. In fact, most come with sprinkler heads that are nearly invisible. The actual heads are usually behind inconspicuous metal plates that detach in a fire event.



***Inconspicuous life savers on duty 24/7***



***Low cost Plumbing integrated fire sprinkler components***

Moreover, home sprinkler systems are designed to respond differently than the ones found in commercial buildings. Home sprinklers spray more outwardly than commercial models and are capable of covering between 150 to 400 square feet, thus requiring fewer sprinkler heads.

**These plates can even be coordinated to match your decor.**

## **Your Builder has Committed Themselves to Make Residential Fire Sprinklers an Available and Affordable Choice for your Family in Your New Home.**

To discover the facts about residential sprinkler systems for yourself; please click on the links provided.

U.S. Fire Administration ([www.usfa.dhs.gov](http://www.usfa.dhs.gov)), the National Fire Protection Agency ([www.nfpa.org](http://www.nfpa.org)), the Home Fire Sprinkler Coalition ([www.homefiresprinkler.org](http://www.homefiresprinkler.org)) or the National Fire Sprinkler Association ([www.nfsa.org](http://www.nfsa.org)).



*Protect what you value most!*

### *Residential Sprinkler Components and Details*

The following components are representative of the type of products you are likely to have in your new residential sprinkler system.



**Sprinkler Head Cover**



**Sprinkler Head**



**PEX“a” Multipurpose Products**

**24/7 Fire Protection**

## **UNDERSTANDING YOUR RESIDENTIAL FIRE SPRINKLER SYSTEM**

### ***Fire Sprinkler Terms and Glossary***

#### **Sprinkler Head**

*Thermally operated water valve that opens by means of a temperature sensitive link allowing a fine spray of water to discharge and cool the area of a fire to prevent catastrophic fire flashover. Residential sprinklers are designed, tested and approved for use in fire situations that are characteristic of residential occupancies.*

#### **Smoke Alarm**

*Electrically operated warning device that senses smoke particles in the ambient air and sounds an audible alarm. Smoke alarms are required to be supplied by a dependable power source and they must feature battery backup. They must also all work simultaneously.*

#### **Multipurpose Sprinkler System**

*Multipurpose sprinkler systems are systems that utilize a piping distribution and water supply that is common to the standard domestic cold water piping serving the plumbing fixtures in a home. Multipurpose pipe and fittings are comprised of special fire code approved materials that are superior to the home plumbing piping and components.*

#### **Hydraulic Design**

*Residential sprinklers are designed by a series of engineered calculations based on many factors including pressure losses in the pipe and fittings, elevation losses, and pressure or flow losses through components such as meters and back flow preventers to assure adequate flow and performance at each sprinkler head. Highly qualified design professionals prepare these calculations and they are individual to every home. The design drawings and calculations are usually submitted to your local building department for approval and inspection.*

## **Flashover**

*Flashover occurs when the temperature of a room reaches the point where the smoke and fumes spontaneously explode. It is often related to a "backdraft" type condition. No one survives a flashover condition if they are in the vicinity of a flashover. Flashover can occur in less than 4 minutes.*

## **Control Valve**

*An indicating valve that controls the water flow to a residential sprinkler system. If the control valve controls only the sprinklers it must be of a lockable design to ensure that it is not closed inadvertently.*

## **Waterflow Alarm**

*An optional device that can be included in a residential sprinkler system to provide for an audible alarm when the sprinkler system activates. The waterflow alarm can be interconnected to the burglar or fire alarm if the home is so equipped.*

## **Hydrostatic Test**

*A method of proving the reliability and tightness of a sprinkler system. The materials and methods that are used for residential sprinklers are so reliable that they are permitted to be tested at their design working pressure.*

## **Wet Pipe Sprinklers**

*A residential sprinkler system that is filled at all times with water supplied by a dependable water source such as a municipal supply or a private well and pump with adequate storage and pressure.*

## **IRC P-2904 and NFPA 13-D**

*International Residential Code / National Fire Protection Association Code. These reference standards provide design and installation minimum requirements to assure that residential sprinkler systems will perform as expected in residential fire scenarios.*