



## HFSC Fact Sheet

Formed in 1996, HFSC is a 501(c)(3) charitable organization and the leading resource for independent, noncommercial information about home fire sprinklers, their installation and operation, and their proven protection of people, pets and property. HFSC strives to improve and increase awareness of home fire dangers and the life safety benefits of sprinklers for residents and responding firefighters. HFSC creates original and effective educational content and advocacy resources and offers them at no cost. HFSC's BUILT FOR LIFE FIRE DEPARTMENT program (BFLFD) is a free resource that supports fire service public sprinkler education as a method to achieve local Community Risk Reduction goals. More than 3,500 BFLFD members routinely demonstrate how access to the right information and tools drives more and better home fire sprinkler education.

### **Home Fire Risk in One- and Two-Family Homes**

Six people die in home fires every day. According to the National Fire Protection Association (NFPA) Fire Loss in the U.S. During 2022, home fires caused:

- 2,240 civilian fire deaths, 78% of all residential fire deaths.
- 7,190 injuries.
- \$8.6 billion in direct property damage.

Today's one- and two-family homes are dangerous for residents and first responders (UL/NIST), burning faster and failing quicker (even collapsing). A home fire can become deadly in as little as two minutes. Homes burn faster due to modern home furnishings, more open spaces, unprotected lightweight wood construction and emerging technology such as lithium-ion batteries.

### **Home Fire Mitigation**

Fire sprinkler technology has been protecting a wide range of structures for more than a century, but their use has been slow to catch on in homes. The NFPA found that sprinklers were present in only 7% of 2021 home fires. Only California, Maryland and Washington, D.C. require statewide installation of sprinklers in new-home construction.

Broader installation of home fire sprinklers would save thousands of lives (USFA). Installing home fire sprinklers uniquely protects residents, property and the

firefighters who respond to fires in these structures. According to the NFPA, the 2021 civilian fire death rate was 89% lower in structures with installed fire sprinklers. The rate of firefighter injuries was 60% lower in fires with sprinklers than in fires without sprinklers.

### **Home Fire Activation**

If a fire occurs, the sprinkler closest to it activates automatically, in response to the high heat from a fire. That controls (often extinguishes) the flames, reduces the spread of toxic and damaging smoke, and provides time for occupants to escape. When sprinklers are present, fire is kept to the room of origin 96% of the time (NFPA). In most home fires, only one or two sprinklers will control the blaze. In fires in unsprinklered homes, the toxic smoke spreads widely and more area is exposed to heat, smoke and fire. This requires more water to be used for suppression with powerful fire department hoses. This greatly increases water and fire damages to the structure and contents.

### **First Responders**

Installing home fire sprinklers helps communities in many ways, including protecting first responders from fire and exposure hazards. Today's home fires are dangerous for firefighters as well as occupants. Firefighters are 11 times more likely to be injured fighting structure fires; 87% of their injuries occur there (USFA 2019). The risk is not limited to fire exposure. Firefighters today face a 9% increase in cancer diagnoses and a 14% increase in cancer-related deaths, compared to the general population in the U.S. (National Institute for Occupational Safety and Health 2017)

### **Environment**

Home fire sprinklers also protect property and the environment. In 2010, FM Global conducted a groundbreaking study of the environmental impact of fire sprinklers. Their research proved that sprinklers are green:

- Greenhouse gas emissions were cut by 97.8%
- Water usage was reduced between 50% and 91%
- Fewer persistent pollutants, such as heavy metals, were found in sprinkler wastewater versus fire hose water
- The high pH level and pollutant load of non-sprinkler wastewater are an environmental concern

In 2021, FM Global reaffirmed this important study, publishing Environmental Impact of Residential Fires Review, documenting that since 2010:

- 1.8 billion lbs. of greenhouse gases have been emitted into the

atmosphere **due to the lack of home fire sprinklers.**

- **Installed home fire sprinklers would have reduced** greenhouse gas emissions by 97% to 54 million lbs.

## **Homebuyers**

Today's homebuyers want smarter homes. In a recent national fire safety survey\* of more than 2000 adults of all ages, 86% said fire safety was important as they look to buy a new home. After learning how home fire sprinklers work, 80 percent of millennials, the largest age group buying homes, said they would prefer to buy a home with fire sprinklers.

- HFSC Omnibus survey with Opinium, surveying a nationally representative sample of more than 2,000 US adults.

## **NFPA Reports:**

US Experience with Sprinklers, Marty Ahrens October 2021: <https://www.nfpa.org/News-and-Research/Data-research-and-tools/Suppression/US-Experience-with-Sprinklers>

Fire Loss in the United States During 2022, Shelby Hall, October 2023: <https://www.nfpa.org/education-and-research/research/nfpa-research/fire-statistical-reports/fire-loss-in-the-united-states>