

## HOMEOWNER TIP

### Fire Safety Checklist:

- Replace smoke alarm batteries annually
- Discard all flammable materials, don't store them in your house
- Store fuel in proper containers and in ventilated areas
- Keep fire extinguishers in kitchen, garage, and workshop
- Service fire extinguishers annually

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# FIRE! HOW SAFE ARE YOU IN YOUR HOME?

*The following information has been compiled from several credible sources including the National Fire Protection Association (NFPA) and the Federal Emergency Management Agency (FEMA).*

While for many years there have been two levels of fire protection available for your home, now there are three!

1. Smoke and fire alarms
2. Fire extinguishers
3. Fire sprinklers

## Smoke and Fire Alarms

Smoke and fire alarms have been around for many years and have saved many lives. Hardwired (i.e., powered by your home's electrical system) smoke alarms, with battery backup, are now required in all new construction and resales of existing homes in most states and Canada. Fire alarms coupled to a central security system with full-time monitoring by an outside security company are common and encouraged, although not required.

If you don't at least have smoke alarms, you should install them now! And check the batteries regularly, if they are battery units.

## Fire Extinguishers

A fire extinguisher is an active fire protection device used to extinguish or control small fires, often in emergency situations. It is not intended for use on an out-of-control fire, such as one which has reached the ceiling, endangers the user (i.e., no escape route, smoke, explosion hazard, etc.), or otherwise requires the expertise of a fire department.

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# CRITERIUM®



### Insurance Discount

Insurance from homeowner underwriters will vary depending on type of coverage. The discounts now range between 5% and 15%, with a projected increase in available discounts.

## EXTINGUISHER CLASSIFICATION

Fires in residences have taken a high toll of life and property. In 2007 there were:

- 414,000 residential fires
- 2,895 civilian fire deaths
- 14,000 civilian fire injuries
- \$7.5 billion in property damage





Source: National Fire Protection Association Fire Loss in the U.S. 2007.

## COMMON TYPES OF EXTINGUISHERS

A fire extinguisher is for quick response as a fire starts, to put it out quickly. If that's not possible, abandon the effort and call the fire department immediately!

While there are several types of fire extinguishers available, the most common for residential use is a stored pressure unit. In stored pressure units, the expellant is stored in the same chamber as the firefighting agent itself. Depending on the agent used, different propellants are used. With dry chemical extinguishers, nitrogen is typically used; water and foam extinguishers typically use air.

There is no official standard in the United States for the color of fire extinguishers. They are typically red, except for Class D extinguishers, which are usually yellow, and water extinguishers, which are usually silver, or white if water mist. Extinguishers are marked with pictograms depicting the types of fires that the extinguisher is approved to fight. In the past, extinguishers were marked with colored geometric symbols, and some extinguishers still use both symbols. The types of fires and additional standards are described in NFPA (National Fire Protection Agency) 10: Standard for Portable Fire Extinguishers, 2007 edition.

Fire Class	Pictogram	Intended Use
A	 Ordinary Combustibles	Ordinary solid combustibles
B	 Flammable Liquids	Flammable liquids and gases
C	 Electrical Equipment	Energized electrical equipment
D	 Combustible Metals	Combustible metals
K	Pan burning	Cooking oils and fats

The most common agents for residential use are:

- Dry Chemical – Powder-based agent that prevents the chemical reaction between heat, fuel and oxygen and halts the production of fire-sustaining “free-radicals,” thus extinguishing the fire.
- Water – Cools burning material.

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## FIRE SPRINKLERS

### Existing Homes

Fire sprinkler systems can be installed in existing homes. The estimated cost (in 2009) is \$2.00-\$3.00 per square foot. Thus, for a 3,000-square-foot house, the cost could be \$10,000 or more. If insurance coverage for that same house costs \$3,000 per year, a 20% savings on insurance would yield about a 17-year payback. That's not quick, but you have the piece of mind knowing that your family is better protected, and your home will be worth more when sold.

All extinguishers should be checked and maintained annually. In your home, you should have easily accessible fire extinguishers in your kitchen, garage and basement/workshop areas. Check with your local fire department for specific recommendations for the type of extinguishers they prefer.

Millions of Americans have installed smoke alarms in their homes in the past few decades, but a smoke alarm can only alert the occupants to a fire in the house...it cannot contain or extinguish a fire. Residential sprinkler systems can!

The 2009 International Residential Code (IRC), which serves as the basis of regulation for new home construction in 48 states plus the District of Columbia, will require fire sprinklers in all new town houses, effective immediately upon adoption by the local municipality, and in all new one- and two-family dwellings, effective January 1, 2011.

The fire problem in the U.S. is overwhelmingly a home fire problem. According to the nonprofit National Fire Protection Association (NFPA), homes account for about 80% of all fire deaths in a typical year and more than 95% of all deaths in structure fires in a typical year.

### Modern Home Fires Burn Faster

New homes benefit from fire sprinkler protection as much as older homes. Research conducted by the National Institute of Standards and Technology (NIST) has shown that home fires become deadly in as few as three minutes. The contents of modern homes (such as furnishings) often burn faster and more intensely.

Plus, many people need more time to escape than any detection/alarm system can provide. Their lives depend on stopping the fire early in its development.

Fire sprinklers provide a level of protection that no other fire protection technology can offer. Smoke alarms are essential: they provide valuable early warning. Extinguishers can control a fire in its very early stages. Fire sprinklers immediately respond to a fire while it is still small, controlling the spread of deadly heat, flames and toxic smoke – whether or not the occupants have appropriately responded to the signaling smoke alarm.

## HOW FIRE SPRINKLERS WORK

In most settings where there is a municipal water supply, sprinklers operate off the household water main. Sprinklers are linked by a network of piping, typically hidden behind walls and ceilings. The high temperature of an early-stage fire (135°- 165°F) will cause the sprinkler to activate. Only the sprinkler closest to the fire will operate, spraying water directly on the flames. This quick action immediately controls (often extinguishes) the flames.

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## COMMON MISCONCEPTIONS

1. When one sprinkler goes off, they all go off ..... FALSE  
Only the sprinkler closest to the fire will activate, spraying water directly on the fire. Nearly 90% of all fires are contained with a single sprinkler.
2. If I burn something on the stove, the sprinklers will go off ..... FALSE  
Smoke alone cannot trigger sprinkler operation.
3. A sprinkler could accidentally go off causing severe water damage to my home ..... POSSIBLE, BUT VERY, VERY UNLIKELY.

## HOW FIRE SPRINKLERS WORK

4. Water damage from a sprinkler system would be more extensive than the damage from the fire itself ..... UNLIKELY.  
Sprinklers severely limit a fire's growth and use only a fraction of the water used by fire department hoses.

5. Home fire sprinklers are expensive ..... NOT REALLY.  
Nationally, on average, home fire sprinklers add only 1% to 2% to the total cost of new construction.

6. Residential sprinklers are ugly ..... FALSE.  
Modern residential sprinklers are inconspicuous, come in designer colors, and can be mounted flush with walls or ceilings.

7. I am not on public water and can't install a residential fire sprinkler system ..... FALSE.  
Homes can be protected by fire sprinklers even in the most remote areas. Holding tanks are available to fit in a garage or other storage area and can hold enough water to satisfy the fire sprinkler systems.

## SPRINKLERS ARE A GOOD INVESTMENT FOR THE HOMEBUYER

A fire occurs in a residential structure every 79 seconds, according to the U.S. Fire Administration. Families with children, senior citizens and handicapped members have special fire protection needs. Home sprinkler systems provide added protection for these people. Homes with fire sprinkler systems attract smart buyers.

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