

How does an AFCI work?

The AFCI circuitry continuously monitors current flow through the AFCI. AFCIs use unique current sensing circuitry to discriminate between normal and unwanted arcing conditions. Once an unwanted arcing condition is detected, the control circuitry in the AFCI trips the internal contacts, thus de-energizing the circuit and reducing the potential for a fire to occur. An AFCI should not trip during normal arcing conditions, which can occur when a switch is opened or a plug is pulled from a receptacle.



What is an AFCI?

The “AFCI” is an arc fault circuit interrupter. AFCIs are newly-developed electrical devices designed to protect against fires caused by arcing faults in the home electrical wiring.

Why is it important to have an AFCI breaker installed in my home?

An AFCI provides a higher level of protection than a standard circuit breaker by detecting and removing the hazardous arcing condition before it becomes a fire hazard.

What is the different between a GFCI and an AFCI?

The “AFCI” is an arc fault circuit interrupter. **AFCIs are electrical devices designed to protect against fires caused by arcing faults in the home electrical wiring.**

The function of the “**GFCI**” is to **protect people from the deadly effect of electric shock.**

AFCI and GFCI technologies can coexist with each other and are a great complement for the most complete protection that can be provided on a circuit.



About ESFI

The Electrical Safety Foundation International (ESFI) is dedicated exclusively to promoting electrical safety. ESFI is a 501(c)(3) organization funded by electrical manufacturers and distributors, independent testing laboratories, utilities, safety and consumer groups, and trade and labor associations. ESFI sponsors National Electrical Safety Month each May, and engages in public education campaigns and proactive media relations to help reduce property damage, personal injury and death due to electrical accidents.

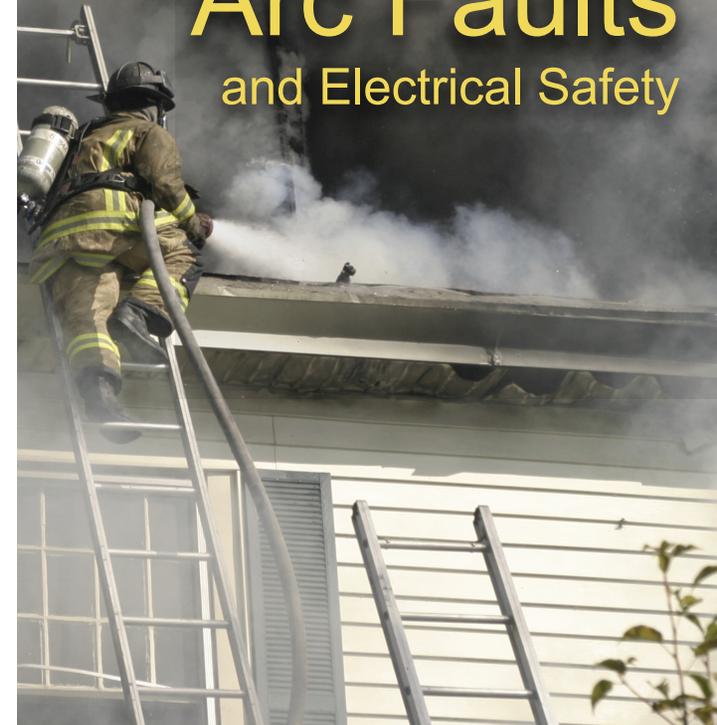
Electrical safety tips are available on the Electrical Safety Foundation International’s Web site, at www.electrical-safety.org, or call (703) 841 3229.



Electrical Safety Foundation International
1300 N. 17th St., Suite 1752
Rosslyn, VA 22209
Phone: (703) 841-3229 / Fax (703) 841-3329
E-mail: info@esfi.org
Web: www.electrical-safety.org



Arc Faults and Electrical Safety



**PROTECTING HOMES & FAMILIES
FROM ELECTRICAL FIRES**

The Electrical Safety Foundation International
www.electrical-safety.org

KNOWING THE DANGERS
FROM ARC FAULTS COULD

SAVE
YOUR
LIFE



Know Your Code !!!

Know which version of the National Electrical Code® (NEC®) applies in your area. Ask your electrician to follow NFPA 73, Residential Electrical Maintenance Code for One- and Two-Family Dwellings. If your area has not adopted the most recent version of the NEC®, or if it has rescinded specific provisions, certain electrical safety features may not apply. Contact your state or local governing entity for details.

ESFI supports that you utilize the **maximum** electrical protection level available to reduce the chance of an electrical fire.

Installing AFCIs

AFCI circuit breakers should be installed by a qualified electrician. The installer should follow the instructions accompanying the device and the panel box.

Testing an AFCI

AFCIs should be tested monthly after installation to make sure they are working properly and protecting the circuit.

Electrical Fires Kill Thousands Every Year

According to the U.S. Fire Administration,* home electrical problems accounted for an estimated 67,800 fires and \$868 million in property losses in 2003. Electrical fires also cause an estimated 485 deaths annually and injure almost 2,300 more individuals.

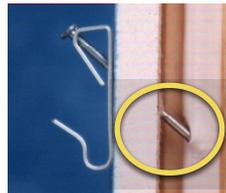
In 1992, the Consumer Product Safety Commission (CPSC) contracted with Underwriters Laboratories (UL) to provide research and evaluation of products and technology that could reduce the likelihood of residential fires. A result of the research, UL identified an electrical hazard called "arcing faults" that could eventually lead to the ignition of a fire as one possible cause of residential fires.

*USFA. 2006. "On the Safety Circuit: A Factsheet on Home Electrical Fire Prevention." U.S. Fire Administration

What is an arc fault?

Arcing faults often occur in damaged or deteriorated wires and cords. Some causes of damaged and deteriorated wiring include puncturing of wire insulation from picture hanging or cable staples, poorly installed outlets or switches, cords caught in doors or under furniture, furniture pushed against plugs in an outlet, natural aging, and cord exposure to heat vents and sunlight. (See photo on the right.)

COMMON CAUSES OF ARC FAULTS



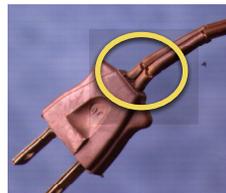
Nails carelessly driven into walls can break wire insulation and cause arcing.



Cables that are improperly nailed or stapled too tightly against a wall stud can sever insulation and cause arcing.



Furniture pushed against or resting on electrical cords can damage the wire insulation. Damaged cords can become a potential condition for arcing.



Extension or appliance cords that are damaged or have worn or cracked insulation can contribute to electrical arcing.

AFCIs are the next generation product in electrical circuit protection. As you evaluate your new home's construction or consider upgrading or remodeling your current electrical system, consider enhancing the protection of your electrical system with AFCIs.



Electricity is a powerful tool. It can also be a lethal hazard. Better safety standards have reduced electrical hazards that cause deaths, injuries and property damage. But good safety habits are still the best prevention against electrical hazards. Visit www.electrical-safety.org for more information on electrical hazards and precautions.

