

# Arc Fault Circuit Interrupters

Over the last thirty years, our homes have been dramatically transformed by electrical devices. However, many homes are overburdened by today's electrical demands, putting them at greater risk of arc faults and arc-induced fires.

An arc fault is a dangerous electrical problem caused by damaged, overheated, or stressed electrical wiring or devices. In the United States, electrical problems cause a average of 50,900 home fires each year, resulting in more than 490 deaths, 1400 injuries and more than \$1.3 billion in property damage. Arcing faults are a major cause of these fires.

## AFCIs Prevent Home Fires

- Arc fault circuit interrupters, or AFCIs, are devices that replace standard circuit breakers in your home's electrical service panel.
- AFCIs provide a higher level of protection by detecting hazardous arcing conditions traditional breakers were not designed to recognize and shutting down the electricity before a fire can start.
- The U.S. Consumer Product Safety Commission (CPSC) estimates that AFCIs could prevent more than 50 percent of the electrical fires that occur every year.
- While new safety requirements require installation of AFCIs only in newly constructed homes, older homes with aging wiring systems can also benefit from the added protection from AFCIs.
- Depending on the size of a given home, the cost impact for installing additional AFCI protection in a home is \$140 - \$350.

## AFCIs and the *National Electrical Code (NEC)*

- Since the 2008 edition, the NEC has included significantly expanded requirements for AFCI protection in all new homes. In addition to bedroom circuits, AFCI technology is required in additional areas of the home, including dining, living, and family rooms.
- The NEC's expanded AFCI provisions do not become effective unless the 2008 or 2011 NEC is formally adopted into state and local electrical codes.
- Home builders in some states have challenged the increased requirements for AFCI technology, claiming that these devices will significantly increase the cost of a home while making very little difference in improving safety.
- Safety advocates maintain that the benefits provided to the homeowner by AFCI technology are well worth the cost for AFCI protection.
- State adoption and enforcement of the 2008/2011 NEC with its AFCI provisions intact is the key to preventing fires, protecting homes, and saving lives.