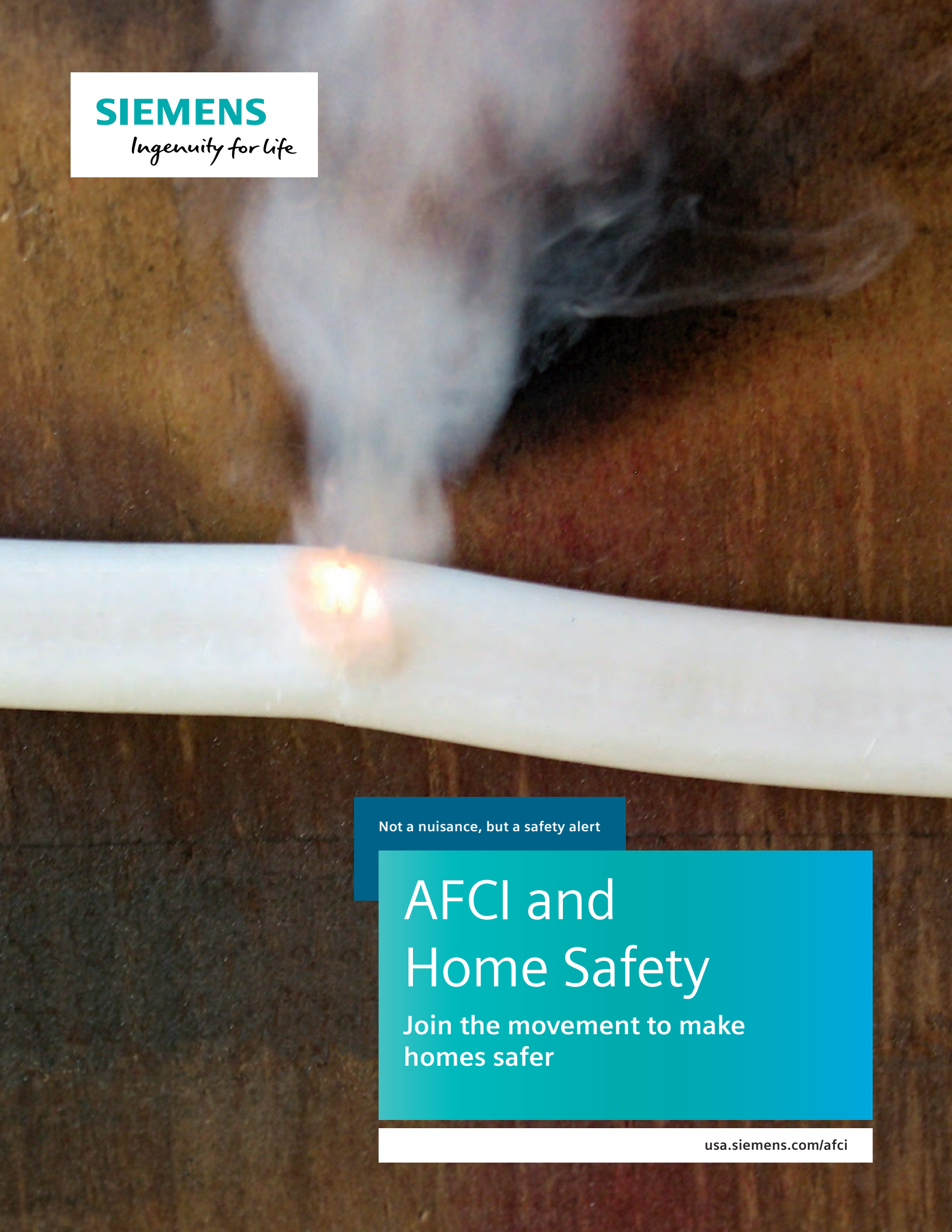

SIEMENS
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AFCI and Home Safety

Join the movement to make homes safer

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AFCI and Home Safety

Join the movement to make homes safer

We all want to live in homes protected from fires caused by electrical arcs.

Following is a collection of information and resources to explain AFCIs and their effect on Home Safety.

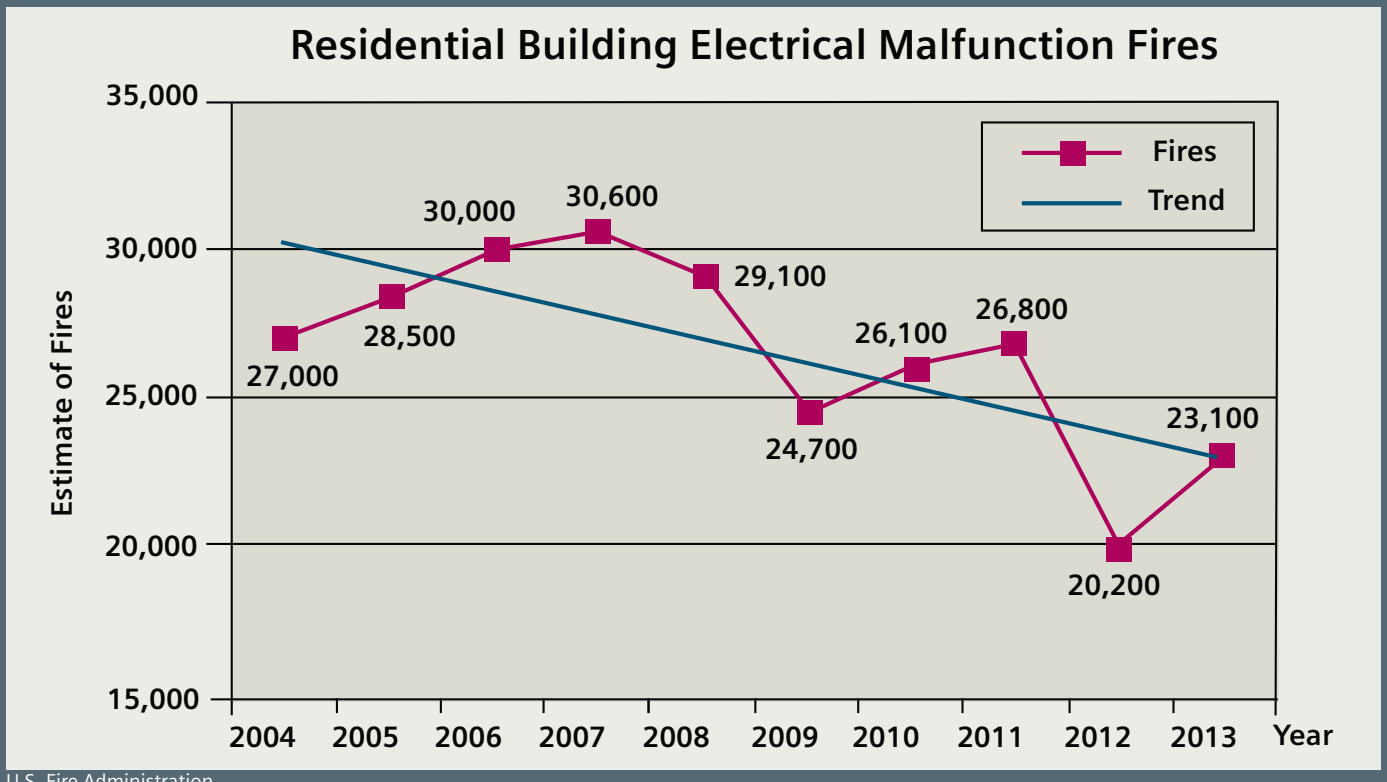
Technology exists to help mitigate the effects of arcing and sparking in our electrical systems. Arc Fault Circuit Interrupters (AFCIs) are devices that alleviate the effects of arcing faults to protect homes against the dangers of electrical fires. Determining the cause of an AFCI trip can be confusing and time-consuming, but the innovative trip indicators and the Siemens exclusive Intelli-arc Diagnostic Tool offer help in the troubleshooting process. This is a technology that has a goal of stopping fires before they begin and can be leveraged in new and existing homes to mitigate the effects of the arcs and sparks that can cause electrical fires.

Background information:

NFPA reported 47,700 home fires involved some type of electrical failure or malfunction in 2011. Those fires resulted in 418 deaths, 1,570 injuries, and $1.4 billion direct property damage. However, the CPSC estimates more than 50% of electrical fires that occur every year could be prevented by AFCIs.

The U.S. Department of Housing and Urban Development's Healthy Homes Report listed the absence of AFCIs among the primary residential hazards associated with burns and fire-related injuries.

Given these staggering statistics, here are some simple steps which will help you to assure Safety for all.



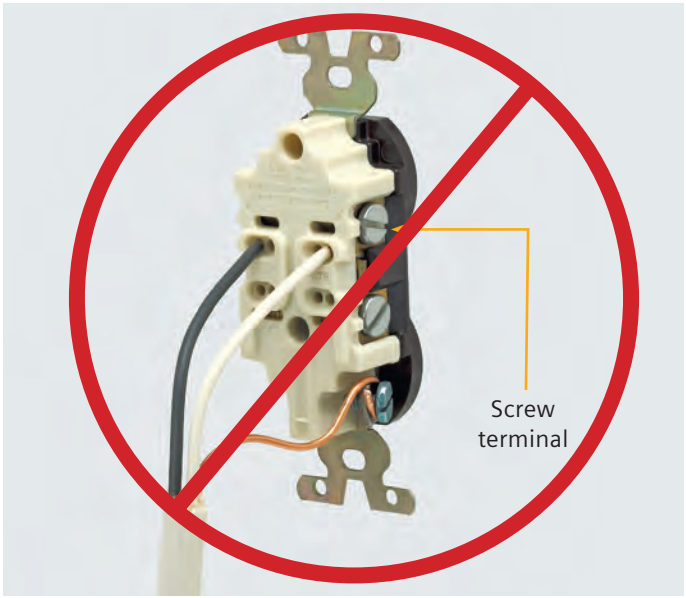
U.S. Fire Administration

Preventative measures (for contractors)

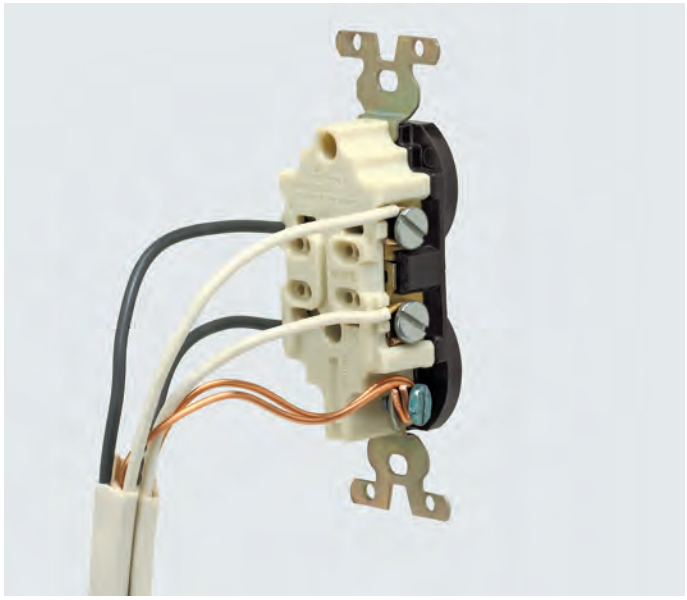
- Ensure light bulbs are tight in socket
- Wire receptacles around the screw
- Devices in the home should be UL and FCC Part 15 compliant
- Route wires in strategic areas so homeowners and other trades are less likely to pierce through a wire

50 to 75 percent of all electrical fires in the United States are caused by arc fault conditions

Example of line-to-ground arc fault (nail puncturing NM-B wire)



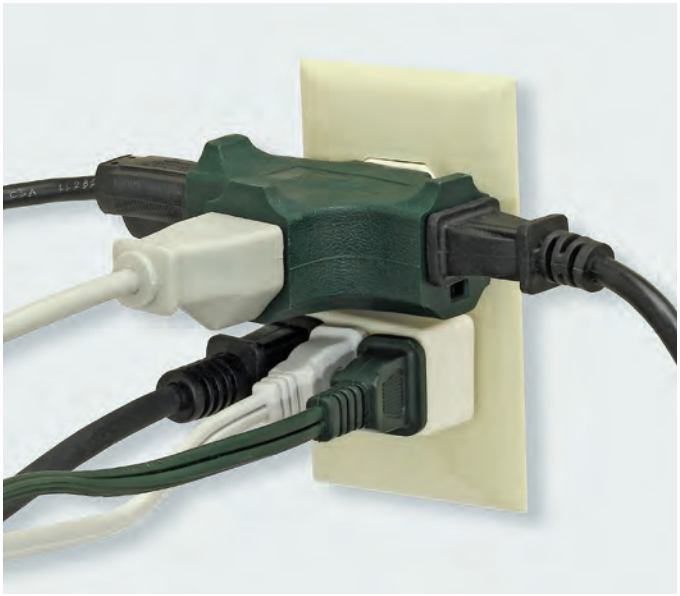
Inserting wire into the pressure slots on the back of the receptacle is not the best method



Wrapping wire around the screws located on sides of the receptacle is the best method

Preventative measures (homeowners)

- Ensure light bulbs are tight in socket
- Protect electronics on surge protectors
- Do not put furniture on or push furniture up against electrical wires
- Devices in the home should be UL and FCC Part 15 compliant
- Do not overload a circuit



Be careful not to overload a circuit

Damaged/bent cords can cause arcs

Light bulbs should make a complete connection with the socket

Surge supressors will not only protect the homeowners' electronics, but also decrease the "noise" emitted from electronics

Additional questions to ask when troubleshooting:

1) How many LED's on the breaker upon reset?
2) What event/action is causing the trip condition?
3) Has the event/action for the trip condition been identified?
4) Which circuits are experiencing the trip condition?
5) What devices are on that circuit?

1-Pole CAFCI circuit breaker			
LED indicators		Last known trip condition	Troubleshooting
1	2		
Off	Off	Overcurrent	Ensure current on the circuits does not exceed the current rating for the breaker.
On	Off	Arc fault	Check wiring for the parallel and series arc faults. Check devices for series arc faults. Use Intelli-Arc to assist and accelerate diagnosis.
On	On	Art fault to ground	Check wiring, switches, and receptacles for possible ground leakage. Use Intelli-Arc or circuit tester to troubleshoot. Using safe electrical practices, systematically identify the source of the ground fault.

2-Pole CAFCI circuit breaker				
LED indicators			Last known trip condition	Troubleshooting
1	2	3		
Off	Off	Off	Overcurrent	Ensure current on the circuits does not exceed the current rating for the breaker.
On	Off	Off	Arc fault (leg A)	Check wiring for the parallel and series arc faults. Check devices for series arc faults. Use Intelli-Arc to assist and accelerate diagnosis.
Off	Off	On	Arc fault (leg B)	
On	On	On	Art fault to ground	Check wiring, switches, and receptacles for possible ground leakage. Use Intelli-Arc or circuit tester to troubleshoot. Using safe electrical practices, systematically identify the source of the ground fault.

Additional Resources:

- Siemens Technical Support: 1-800-333-7421
- www.afcisafety.org
- UL AFCI training – FREE!: Go to www.afcisafety.org and click on the link at the top of the page for the "free online training program"
- NEMA White Paper: Wiring Practices & Troubleshooting with AFCIs found under Publications and Multimedia Presentations at afcisafety.org
- usa.siemens.com/afci

Intelli-arc:

- brainshark: http://www.brainshark.com/siemens/DYKIntelliARC

CustomPoint resources:

- Posters: RPMR-IADT1-0909, RPMR-IADT3-0909, RPMR-IADT2-0909
- DVD: RPMR-IADVD-0610
- Brochure: RPFL-IADT2-1011

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