

## Childproofing—and Adultproofing—Done Right

### AFCIs, GFCIs, TRRs can prevent tragedy

**MINIMIZE THE RISK** of electrical fires and shocks by protecting your homes with arc fault circuit interrupters (AFCIs), ground fault circuit interrupters (GFCIs), and tamper resistant receptacles (TRRs).

AFCIs, GFCIs and TRRs can prevent tragedy before it ever occurs. These devices have proven so effective that the National Electrical Code® (NEC) requires them to be installed in all new homes, and requirements for these devices continue to expand with each version of the NEC. Existing homes with aging electrical systems can also benefit from these technologies, which should be installed by a qualified electrician. Incorporating these home safety devices into your existing electrical system can help reduce the risk of fires and electrocutions.

#### AFCIs

An arc fault is a dangerous electrical problem caused by damaged, overheated or stressed electrical wiring or devices, and is one of the major causes of the more than 51,000 electrical fires that occur each year in the United States.

- ▶ Branch/feeder AFCIs, the most common type of AFCIs, replace standard circuit breakers in the home's electrical service panel and provide a higher level of electrical fire protection by detecting hazardous arcing conditions and shutting down the electricity before a fire can start.
- ▶ Outlet AFCIs provide protection to power cords and things that are plugged into the receptacle.
- ▶ Combination AFCIs provide AFCI parallel protection for branch circuit wiring, cord sets and power-supply cords, downstream of the device.
- ▶ Originally, AFCIs were only required to protect bedroom circuits, but the 2011 NEC requires the technology to be installed in other areas of the home, including dining and living rooms.

#### GFCIs

A GFCI is a device designed to protect people from electric shock and electrocution by constantly monitoring electricity flow in a circuit and quickly switching off power if it senses any loss of current.

- ▶ GFCIs could prevent more than two-thirds of home electrocutions that occur each year.
- ▶ GFCIs can be installed at the main service panel, in place of standard electrical outlets, or can be used as a portable device.
- ▶ Typically, GFCIs are installed in areas where water and electricity are in close proximity, such as the bathroom, garage, kitchen and basement.
- ▶ While GFCIs should be installed by a licensed electrician, portable GFCIs require no tools to install.

#### TRRs

A Temple University study found 100 percent of all 2- to 4-year-olds could remove one type of plastic outlet cover within 10 seconds. And more than 2,400 children under 10 years old are treated in emergency rooms for electric shock or burns caused by tampering with a wall outlet. Properly childproof your outlets by installing TRRs.

- ▶ TRRs look like ordinary outlets but are designed with spring-loaded receptacle cover plates that close off the receptacle openings or slots.
- ▶ When equal pressure is simultaneously applied to both sides, the receptacle cover plates open to allow the standard plug to make contact with the receptacle contact points.
- ▶ Without simultaneous pressure, the cover plates remain closed, preventing insertion of foreign objects and protecting children from electrical injuries.
- ▶ TRR technology can be combined with AFCI and GFCI receptacles.

More information on these safety devices can be found at [www.esfi.com](http://www.esfi.com), the website of the Electrical Safety Foundation International. **KCL**



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