



Fast Facts: The 2008 NEC Tamper-Resistant Code Means “Real Safety”

Approximately 2,400 children receive emergency room treatment every year for injuries caused by inserting objects into electrical receptacles, according to U.S. Consumer Product Safety Commission (CPSC) data. This equates to *about seven children each day*. Injuries range from electric shock to first-, second- and third-degree burns. And, though rare, some cases prove fatal.

In response to these statistics the *National Electrical Code*® (NEC) has been revised to include a requirement for all residential receptacles, or outlets, to be tamper-resistant.

Code Basics

- The revision takes effect with the 2008 NEC, and states and municipalities will have to adopt the Code.
- NEC Article 406.11 states that all 125-volt, 15- and 20-ampere receptacles shall be listed tamper-resistant receptacles.
- The new Code will affect all new construction installations for single- and multi-family homes.
- Historical adoption rates indicate about 50 percent of the states will likely adopt the Code in 2008, and 80 percent will likely adopt by 2009.

Accidents and Injuries

- CPSC data indicate that about 71 percent of electrical incidents occur at home, with adult supervision typically present.
- It's estimated that 89 percent of injuries occur in children less than six years old, and toddlers carry the greatest risk.
- Children insert a wide variety of metal objects into receptacles, including: paper clips, pens, safety pins, screws and nails, tools, wire, forks, tweezers, hair pins, keys, knives, coins and more.
- The two most common objects inserted are keys and hairpins – items children can access easily that parents don't often consider dangerous.
- CPSC data indicate that about 94 percent of injuries involve burns. Pediatric burns can be particularly serious, because the skin is thin and offers little resistance to electric flow or heat.

Tamper-Resistant Receptacles vs. Standard Electrical Receptacles (Outlets)

- Tamper-resistant receptacles have built-in shutter systems that prevent foreign objects from touching electrically live components when they're inserted into the slots.
- The shutters don't impair normal plug insertion, removal or function.
- Device testing found no appreciable difference for insertion and removal forces between tamper-resistant and non-tamper-resistant receptacles.
- Bent, damaged, or burred plug blades *can* make insertion more difficult. Examine and straighten or replace substandard plug blades to ensure proper function.
- Tamper-resistant receptacles are retrofit friendly; they install like standard receptacles and are completely interchangeable.



Proof that Tamper-Resistant Receptacles Work

- Although not widely used in homes, tamper-resistant receptacles have been required in hospital pediatric care areas for more than 20 years.
- Tamper-resistant receptacles are:
 - UL listed – subjected to intense, documented testing procedures
 - Permanent – once installed, they offer continuous protection, unlike plastic outlet caps that can be removed or forgotten
 - Reliable – this hard-wired solution eliminates the worry about inserting, losing or breaking the device
 - Automatic – protection remains, even with plug or cord removal
- European electrical receptacles use tamper-resistant shutters often for intrinsic safety

Greenbacks Needed for the Green Light on Safety? Not Many

- NEMA estimates an increase of less than \$50 on an average total electrical installation of \$6,820 to make all outlets tamper-resistant in a new home.
- Many parents spend more for a child's car seat!

NEMA: the Voice for "Real Safety"

- The National Electrical Manufacturers Association (NEMA) provides a forum to develop technical standards in the best interests of the industry and of electrical product users, advocating policies on legislative and regulatory matters affecting the industry and those it serves.
- NEMA manufacturers are designing and tooling all residential products necessary for the 2008 NEC implementation, with some devices already available for purchase.
- NEMA encourages electrical inspectors, contractors and distributors to contact electrical associations and local and state legislators to push for Code adoption.

To Learn More

- For NEMA's Real Safety campaign resources: www.childoutletsafety.org
- For manufacturer research and safety statistics: www.nema.org
- For U.S. incident statistics: www.cpsc.gov/library/neiss.html
- For the CPSC data-sheet of electrical safety: www.cpsc.gov/cpsc/pub/pubs/524.html
- For Canadian incident statistics: www.phac-aspc.gc.ca/injury-bles/chirpp
- For the *Consumers Union Report on Outlet Caps*:
<http://www.consumersunion.org/products/childsafeny698.htm>
- For the State Farm report on home electrical safety:
http://www.statefarm.com/learning/child_safety/learning_childsafety_elec.asp

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