



Overloading Outlets

Don't Overload Outlets

The electrical wiring in many homes was designed to handle around half of the electrical demands of today's families. According to the National Fire Protection Association (NFPA) and the Electrical Safety Foundation International, electrical fires are one of the leading causes of structure fire annually. Officials with the NFPA said in 2010, electrical fires accounted for nearly 13 percent of reported home fires. Those fires resulted in 420 fatalities, 1,520 injuries and \$1.5 billion in property damage.

Here are some tips to prevent the dangers that can occur by overloading an outlet.

- Never plug more than two appliances into an outlet at once or "piggyback" extra appliances on extension cords or wall outlets. Use only outlets designed to handle multiple plugs.
- Know the amount of power you're placing on an outlet or circuit. Some recommend each outlet or circuit should not exceed 1,500 watts.
- Major appliances (refrigerators, dryers, washers, stoves, air conditioners, etc.) should be plugged directly into their own wall outlet since they are heavy power users.

Watch for these warning signs of electrical system overload. If you have any of these present, you should have your home inspected by a professional:

- Lights often flicker, blink or dim momentarily.
- Circuit breakers trip or fuses blow often.
- Cords or wall plates are warm to the touch or discolored.
- Crackling, sizzling or buzzing is heard from outlets.

If an electrical fire does occur, take these steps:

- Call 911 or another appropriate emergency service.
- If you must attempt to put out an electrical fire, use a dry fire extinguisher or baking soda. Never try to extinguish an electrical fire with water!
- If the fire is large, try to turn off the main power source. Do not try to handle the fire yourself.

Circuit breakers and fuses guard against electrical overload by regulating the amount of current which can be drawn from a circuit. This current is expressed in amperes, or amps. Most circuit breakers and fuses regulate available current at either 15 or 20 amps. If too much current is drawn from the circuit, the circuit breaker trips or the fuse blows, breaking the circuit to prevent an overload. Circuit breakers and fuses aren't always reliable.

Continued



Yuma County Department of Development Services

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Overloading Outlets continued:

Another potential hazard occurs when more than one outlet is wired to a single circuit. All of the outlets in an entire room may be connected to a single circuit, so you don't have to overload a single outlet to cause a fire.

Adding circuits and breakers to your residence is a job for a licensed electrician. A good electrician will determine the condition of your wiring, if circuits and breakers can be added to the existing service, if the service panel needs upgrading (and what permits may be required), and give you an estimate of how much the project will cost.

The formula to determine how much electricity you're using looks like this: **$p/e=i$** (wattage divided by volts equals amps). - 2,000 watts of power divided by the number of volts in your house (usually 120) is 16.6 amps of current. With a 20 amp electrical outlet, around 80 percent of the available current is being used, which is the most you should be using in a circuit.

What Can Homeowners Do?

- If a fuse blows or circuit breaker trips frequently, have a qualified electrician perform an inspection.
- If the main electrical panel has circuit breakers, flip them off and back on once a year.
- A power strip and surge protector circuit breaker only protect the devices which are plugged in to them. Plug strips on outlets on the same branch circuit may overload the circuit and cause a fire.
- Never run appliance cords or extension cords underneath carpet or rugs.
- Any outlet or switch hot to the touch requires a qualified electrician determine the problem.
- Circuits can only handle a specified total wattage of all electrical devices plugged into and running on a circuit at one time.
- Don't ignore buzzing or crackling coming from outlets or light switches.
- Appliance or extension cords that are hot to the touch are problems waiting to happen

If your last inspection was:

- 40 or more years ago, inspection is overdue.
- 10-40 years ago, inspection is advisable.
- Less than 10 years ago, inspection may not be needed, unless problems are noticed.

The electrician performing the last inspection may have written the date on the inside of the door to the electrical panel.

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