

POWER CORD AND STRIP OUTLET SAFETY

Environmental Health and Safety



WHY WORRY ABOUT ELECTRICITY?

Death. Electrocutations rank fourth (9 percent) in causes of industrial fatalities (behind traffic, violence and construction). The National Safety Council estimates 600 people die every year of electrical causes. Most of these accidents involve low voltage (600 volts or less). Electricity is an integral part of today's modern world, and sometimes it is easy to forget just how dangerous it can be. Given the correct circumstances, it can kill.



But it can also shock you painfully, damage sensitive equipment and ignite combustible materials.

EXTENSION CORD BASICS

According to the Consumer Product Safety Commission, misused or damaged extension cords cause about 3,300 residential fires each year, killing 50 people and injuring 270 others.

Extension cord safety begins with inspecting cords before you use them.

- » Do not use extension cords that are cut or damaged. Touching even a single, exposed strand of wire can give you an electric shock or burn.
- » Check the cord's plug to ensure that the blades and grounding pin are present.
- » Never file or cut the plug blades or grounding pin of an extension cord or an appliance to plug it into an old outlet.

To avoid fire hazards, never run cords under carpets or under doors.

EXTENSION CORD LABELING

Extension cords are labeled with valuable information as to the use, size and wattage rating of the cord. Cords are offered in many lengths and are marked with a size or "gauge." The gauge is based on the American Wire Gauge (AWG) System, in which the larger the wire, the smaller the AWG number. For example, a 12 gauge wire would be larger, and can power larger wattage appliances, than a 14 gauge wire.

EXTENSION CORD SIZING



To determine what size, or gauge, cord you will need, you will also have to determine how long you need the cord to be. A cord, based on its gauge, can power an appliance of certain wattage only at specific distances. As the cord gets longer, the current carrying capacity of the cord gets lower. For example, a 16 gauge extension cord less than 50 feet in length can power a 1625 watt (W) appliance. A 16 gauge cord that is longer than 50 feet in length can only power an appliance up to 1250W.

APPLIANCE LABELING

All appliances indicate how much wattage is consumed when operated; that rating can be found on the appliance itself and often within the use and care booklet that accompanies the product. Other appliances will indicate power usage in amps, rather than watts.

QUICK TIP:
AMPS X VOLTS = WATTS

For example, if your appliance indicates that it uses 5 amps at 125 volts, then its wattage rating is 625W.



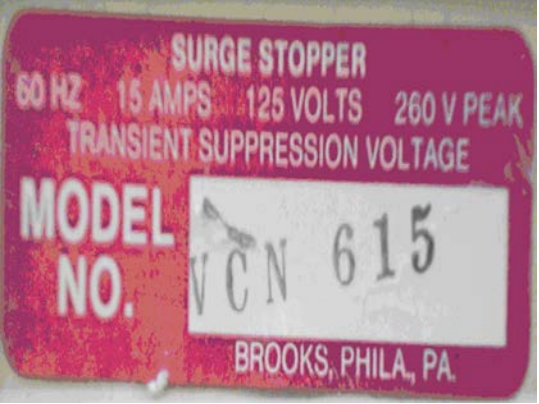
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STRIP OUTLETS

A strip outlet, also known as a power strip, extension lead, power board and by many other variations, is a strip of electrical sockets that attaches to the end of a flexible cable and allows multiple devices to be plugged in. Power strips are often used when many electrical devices are in proximity, especially with audio/video and computer systems. Power strips also have a maximum power specified to them.



» The outlet warning below is rated for 15 amps and 125 volts so its wattage rating is 1875W. So you could plug in several devices as long as the total wattage of all devices is less than 1875W.



» The device below gives the total wattage used at 2.5W.



» The device below uses 1500W as noted on the label.



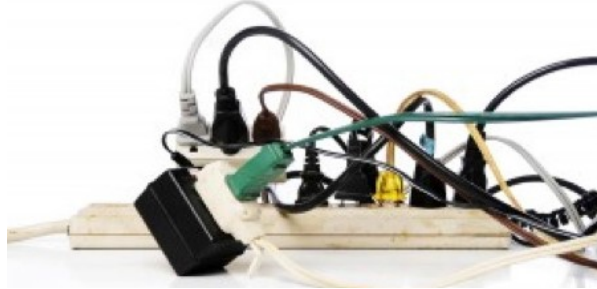
» This device uses a maximum of 240 Volts at 0.4 Amps so total wattage would be 96.



By determining the watt usage of each piece of equipment one can determine how many and what type of items can be plugged into a strip plug. Never plug one strip plug into another strip plug.



Below are all bad examples of how power cords and strip outlets have been used and what may result from their improper usage:



WALL PLUGS

Most electrical wall plugs are 1800 watts depending on the breaker size. Most breakers are at 15 amps supplying 120 volts, or approximately 1800 watts. The next breaker size is 20 amps supplying 120 volts or approximately 2400 watts. These are the most common electrical plug wattage supplies. As with strip plugs; this information is important in determining what can be plugged into a wall outlet.



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Special thanks to Eastern Washington University for providing the template.



If your power strips look like the one above, look to the picture below for what may result due to the improper use.

