



ELECTRICAL EXTENSION CORD SAFETY

Just because the first extension cord you find in your garage has the length to reach the outlet across the room, it doesn't mean it's the proper one to use for the task at hand. If a power tool is drawing more current than an extension cord can carry, it may cause the cord and tool to overheat and create a fire. Before using any extension cord to help power an electrical tool or appliance, the safety professionals at Underwriters Laboratories Inc. (UL) encourages consumers to ask themselves three important questions:

- **Will I use the cord indoors or outdoors?**
- **What is the total wattage rating of the appliances I'll use with the cord?**
- **How far is the nearest outlet from where I'll be working?**

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.

Before deciding which extension cord to use, first carefully read the manufacturer's instructions for the power tools you will be using. These booklets contain important information about your tools and will provide instructions on their use. The booklets will also indicate whether the tools are suitable for use outdoors. Likewise, the first step in determining which extension cord you will need is to decide whether you will be using the appliance indoors or outdoors. Extension cords that can be used outdoors will be clearly marked "Suitable for Use with Outdoor Appliances." Never use an indoor extension cord outdoors; it could result in an electric shock or fire hazard.

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 a 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.

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: if your appliance indicates that it uses 5 amps at 125 volts, then its wattage rating is 625W (5x125).

If you are going to use the extension cord with two or more appliances, you must add together the wattage rating for all appliances used on the cord. The total of those wattage ratings will help you determine which gauge size you will need.



Requirements of the National Electrical Code

ARTICLE 400 Flexible Cords and Cables

400.8 Uses Not Permitted.

Unless specifically permitted in NEC ART 400.7, flexible cords and cables shall not be used for the following:

- (1) As a substitute for the fixed wiring of a structure
- (2) Where run through holes in walls, structural ceilings, suspended ceilings, dropped ceilings, or floors
- (3) Where run through doorways, windows, or similar openings
- (4) Where attached to building surfaces
Exception to (4): Flexible cord and cable shall be permitted to be attached to building surfaces in accordance with the provisions of 368.56(B)
- (5) Where concealed by walls, floors, or ceilings or located above suspended or dropped ceilings
- (6) Where installed in raceways, except as otherwise permitted in the Code
- (7) Where subject to physical damage

SAFETY SUGGESTIONS

- * Use extension cords only when necessary and only on a temporary basis.
- * Use polarized extension cords with polarized appliances.
- * Make sure cords do not dangle from the counter or table tops where they can be pulled down or tripped over.
- * Replace cracked or worn extension cords with new. #16 gauge cords that have the listing, of a nationally-recognized testing laboratory, safety closures, and other safety features.
- * With cords lacking safety closures, cover any unused outlets with electrical tape or with plastic caps to prevent the chance of a child making contact with the live circuit.
- * Insert plugs fully so that no part of the prongs are exposed when the extension cord is in use.
- * When disconnecting cords, pull the plug rather than the cord itself.
- * Teach children not to play with plugs and outlets.
- * Use only three-wire extension cords for appliances with three-prong plugs. Never remove the third (round or U-shaped) prong, which is a safety feature designed to reduce the risk of shock and electrocution.

In locations where furniture or beds may be pushed against an extension cord where the cord joins the plug, use a special "angle extension cord," which is specifically designed for use in these instances

- * Check the plug and the body of the extension cord while the cord is in use. Noticeable warming of these plastic parts is expected when cords are being used at their maximum rating, however, if the cord feels hot or if there is a softening of the plastic, this is a warning that the plug wires or connections are failing and that the extension cord should be discarded and replaced.
- * Never use an extension cord while it is coiled or looped. Never cover any part of an extension cord with newspapers, clothing, rugs, or any objects while the cord is in use. Never place an extension cord where it is likely to be damaged by heavy furniture or foot traffic.
- * Don't use staples or nails to attach extension cords to a baseboard or to another surface. This could damage the cord and present a shock or fire hazard.
- * Don't overload extension cords by plugging in appliances that draw a total of more watts than the rating of the cord.
- * Use special, heavy duty extension cords for high wattage appliances such as air conditioners, portable electric heaters, and freezers.
- * When using outdoor tools and appliances, use only extension cords labeled for outdoor use.