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How do I determine the electrical capacity of my home? Will it handle my requirements?



The electrical service provided to a home is measured in amps, which is a measure of the “flow rate” of electricity through a wire. Today’s average home is constructed with electrical service of 100 amps, which means that the large main wires entering the home can safely handle 100 amps of current before there is a risk of overheating. Some homes,

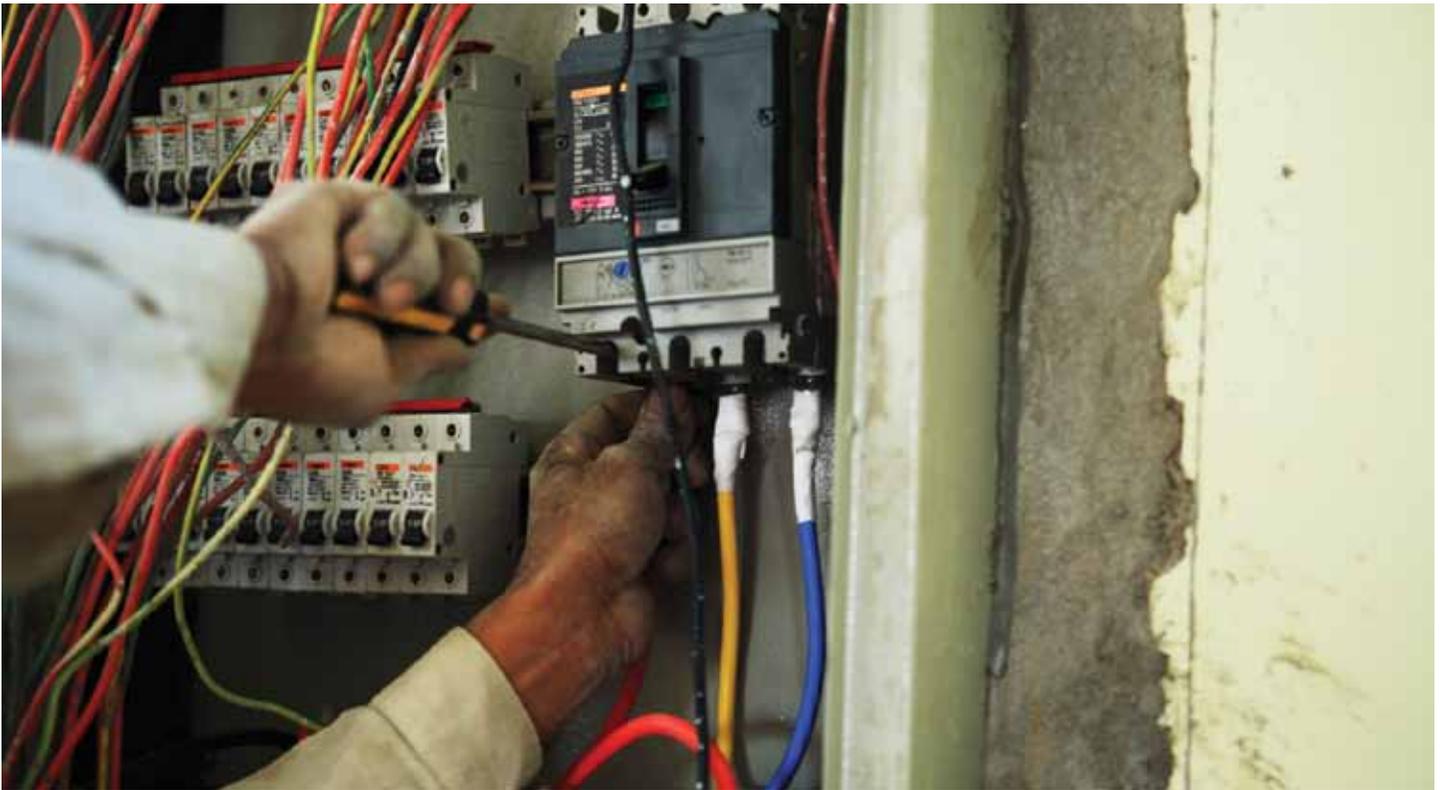
however, are built with 200 amp service, while homes built prior to the 1950s featured a 60 amp service. In order to determine the electrical capacity of the home, an inspector will check the size of the wires entering the home to verify they are compatible with the main electrical disconnect (breaker or fuse). Modern homes are equipped with breakers to

detect if too much current is flowing through the wires. The breaker will shut off to prevent overheating of the wire, which is a potential safety hazard.

A home’s electrical capacity is dependent on the demand within a home. The more electrical fixtures and appliances there are, the larger the service requirement. Appliances with the highest demands include stoves/ovens, dryers, and electrical water heaters. Saunas, spas and workshops also draw large quantities of electricity. If many of these appliances are operating at the same time, the electrical service may be inadequate, causing the main breaker or fuse to trip.

My home has outlets that are not grounded. What are the risks and consequences?

Grounded electrical systems were implemented as a safety feature in homes after the 1950s. Copper grounding wires provide a path to redirect potentially harmful electricity to a safe location, if an element of the electrical system malfunctions. A “hot” wire that comes loose and contacts the metal casing of an electrical fixture or appliance can cause this “stray” electricity. For example, if a washing machine malfunctions, the stray electricity should be guided through the grounding wire of the appliance to the grounding wire of the home’s electrical system. Ground wires should be connected to all areas of the electrical system (i.e. fuse panels, light fixtures, outlets, junction boxes), providing electrically unobstructed paths to minimize the risk of shock.



Prior to the 1950s, electrical systems were constructed without ground wires, as noted by two-pronged outlets. Some older homes feature three-pronged outlets and an antiquated, ungrounded wire service. This can give a homeowner a false sense of security. If an appliance with a three-pronged plug is plugged into an ungrounded three-pronged outlet, a safety hazard might be created, since this equipment is designed for a grounded outlet. A home inspector can identify the grounding properties of a home and make the appropriate recommendations for upgrades, where potentially unsafe conditions exist.

**There is a scorched wire in my electrical panel.
Does it require immediate attention?**

Friction and overheating can cause a wire to scorch as it attempts to carry more electricity than it can handle. Any scorched wires found in the electrical panel indicate the potential for past or current unsafe conditions. If these conditions are observed, a qualified electrician should be contacted to investigate the cause further.

To speak with a certified and trained AmeriSpec home inspector, contact us today.

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