

Electrical – Fuses

How does a fuse work?

Fuse boxes were widely installed in homes, businesses, and industrial buildings until the 1950's and 1960's. Since then, electrical contractors have been installing circuit breakers because they're safer, more cost effective, and more reliable. Both devices are used as disconnects for overcurrent protection. Without this overcurrent protection, electrical circuits can become overloaded and could cause a fire.



Fuses act as a disconnect for when a circuit becomes overloaded. Fuses come in different amperages, and this determines the amount of current permitted to flow through the circuit. There's a small metal strip that, when an overload occurs, will melt and disconnect the circuit. Without this disconnect, an appliance or device could pull more amps than the circuit can handle resulting in a possible fire. A circuit breaker acts in the same manner except that instead of having a metal strip that melts, there's a switch that will trip to create the same disconnect.

Issues with Fuses

- Extra fuses must be kept on hand and replaced when one blows.
- When replacing a fuse, the circuit is exposed and poses an electrical shock hazard.
- Typical fuse boxes cannot accommodate as many circuits as modern circuit breaker panels.
- No ground fault circuit interrupter protection is provided.
- Many fuses are replaced with larger amperage fuses or pieces of metal. This will cause an overload and likely lead to a fire.
- Replacement parts are becoming harder to find.

Benefits of Circuit Breakers

- When a circuit breaker trips, it's easy to reset with a flip of a switch.
- There are fewer electrical shock hazards, especially when the cover is in place.
- Many more circuits can run through a breaker box than a fuse box.
- Ground fault circuit interrupter protection is provided
- It's cheaper and more reliable to install and maintain.

Fusestats are sometimes installed in fuse boxes so larger fuses can't be placed inside a 15-amp circuit. These, however, aren't foolproof and aren't an acceptable substitute for circuit breakers.

If you still have fuses in your home or business, chances are they're more than 50 years old and well past their serviceable lifespan. We rely on more current to run dishwashers, dryers, computers, televisions, and other appliances. Fuses are outdated equipment that were never designed to handle the electrical loads we place on them today. Although fuses still work, they should be replaced with circuit breakers to prevent the severe hazards they pose.

If you'd like more help assessing your electrical exposure, please contact West Bend Loss Control for an onsite consultation with one of our highly-trained consultants.

