EVALUATING YOUR HOME SAFETY

Electrical Circuit Interrupters

The National Electrical Code (NEC) mandates the use of electrical circuit interrupters, or AFCIs (arc-fault circuit-interrupters) and GFCIs (ground-fault circuit-interrupters), which are devices created expressly to assist avoid fires and electric shock. When properly placed, AFCIs and GFCIs greatly decrease accidents that would otherwise cause property damage, electrical shock, or even death.

AFCI - A circuit breaker called an arc-fault circuit interrupter (AFCI) shuts off the electricity when it notices the electric arcs that are an indication of faulty connections in residential wiring. Over time, loose connections can develop and occasionally get hot enough to start a house fire. An AFCI can tell the difference between a safe arc (occurring because of brushed motors, switches, and plugs operating normally) and a potentially dangerous arc (that can occur, for example, in a lamp cord which has a broken conductor).

GFCI- An electrical safety device known as a ground fault circuit interrupter (GFCI) instantly shuts off an electrical circuit when there is a leakage current to the ground. It is done to safeguard the equipment and lessen the possibility of significant injury from a sustained electric shock. Injury may still happen under some circumstances, such as when a person contacts both conductors simultaneously and receives a brief jolt before the electrical circuit is cut off.

Why Traditional Circuit Breakers Don't Suffice

A conventional circuit breaker won't notice the leak because little arcs are different from enormous amounts of electrical energy rapidly traveling to ground (as with a short). Arc faults can be compared to sparks or small electrical currents that produce heat but little other energy flow. It goes without saying that they can start a fire by swiftly consuming neighboring wood and plastic. Traditional circuit breakers cannot detect arc problems due to their design. They only trip if a short, causes a large amount of energy to abruptly flow to ground or pass through the circuit. Additionally, they do not safeguard extension cords hooked into wall outlets or linked electrical cords.

Whole Home Surge Protection: Don't Trust Power Strips to Safeguard Expensive Appliances

Whole-home surge protection protects all your appliances from voltage spikes. So, in the rare event of a lightning strike, your home's electronics will be protected. Even the smallest surge through your home's wiring can cause some big issues for your home's electronics.

What causes power surges? The most potent and dangerous surges are those caused by lightning: Standard 20-amp wiring will be burned by a 200,000-amp shock that crashes through a power line. However, for a lightning strike to be harmful, it must be less than a mile from the house, and most surge-related damage is not lightning-related. Surges from downed power lines, abrupt shifts in the nearby factory's electricity use, or even the on/off cycling of electric dryers, air conditioners, refrigerators, and other energy-guzzling appliances in the home are far more frequent, if not as dramatic.

Fire / Smoke Alarm Safety

An important component of a house fire escape strategy is a smoke alarm. Smoke spreads quickly when there is a fire. Working smoke alarms provide early notice, allowing you to quickly exit the building.

1. Install smoke alarms in each bedroom.
2. Large homes may need extra smoke alarms.
3. It is best to use interconnected smoke alarms. When one smoke alarm sounds, they all sound.
4. At the very least once a month, test any smoke alarms. To test the alarm's functionality, press the test button.
5. Various forms of technology are used by current alarm systems on the market, such as multi-sensing, which can detect both smoke and carbon monoxide simultaneously.
6. Modern smoke alarms will use more sophisticated technology to adapt to a variety of fire circumstances while reducing false alarms.
7. A smoke alarm ought to be mounted high on a wall or the ceiling. To reduce false alerts, keep smoke alarms away from the kitchen. At least 10 feet (3 meters) should separate them from the stove.
8. Special alarms are available for those who are deaf or hard of hearing. These alarms have bed shakers and strobe lights.
9. Upgrade all smoke detectors when they are 10 years old

CSST Bonding

CSST (Corrugated Stainless-Steel Tubing) bonding is a technique in which a conductor is electrically connected to CSST metallic gas piping and then connected to the grounding electrode system to provide a low impedance path to the ground. When conductive systems are ignited by a lightning strike on a CSST gas pipe or nearby, CSST bonding is utilized to lessen the likelihood and severity of arcing between conductive systems. The grounding electrode system of the electrical service of the residence where the CSST is placed is where the CSST must be firmly bonded. With this configuration, stray voltage or current can safely flow down a continuous electrical path to the ground.

When CSST is placed improperly bonded, there is a higher danger of fire or damage to the gas lines in the event of a nearby lightning strike or power surge. Remember that lightning is a very disruptive force and that it can travel along the CSST gas line if it strikes in the area. This energy that travels can jump to metal and release its energy. The difference in potential between the gas pipe and the metal can now cause an arc, which can harm the CSST gas pipe if the CSST is not being securely bonded. If CSST is damaged, gas leaks could result in an explosion or fire.

Water Monitoring

Imagine having a leaky pipe or a broken water faucet in your house. It may flood the area, resulting in property loss and expensive, time-consuming repairs. If you encounter water that has been exposed to electricity, you could become the path that the electricity takes to reach the ground. Water is an excellent electrical conductor.

Water sensors keep your house from flooding and notify you of any leaks that could cause significant harm. Water sensors can be set up to send an alert to your smartphone or to a reputable monitoring firm when they detect the presence of water. They can be configured to turn off the water supply to stop additional damage.