Homeowner's Guide to Preventing Electrical Fires – Keeping Your Family Safe

More than 40,000 electrical fires occur in homes every year, resulting in hundreds of deaths, thousands of injuries and more than a billion dollars in property damage. Electrical fires can be devastating as quite often they occur when we least expect them in locations that may be hidden from view. There are steps a homeowner can take to help mitigate the effects of electrical arcing and sparking that often cause these types of fires. This guide will help you be proactive when it comes to protecting your family from these sources of fire.

1. **Connected Cord Inspections:** When plugging and unplugging various appliances found in your home, take time to inspect the cords. Look for any signs of damage due to wear and tear. Sometimes plugs can be smashed between furniture and the wall, weakening the conductor insulation. Cords can also be damaged through abuse by improperly removing them from the receptacle outlet, being stepped on, or placed under the legs of chairs or other types of furniture.

2. **Extension Cords:** Look through your home for locations where extension cords are not being used properly like being run underneath carpets or area rugs. These cords are not designed as permanent wiring for appliances in your home and you may be exceeding the ratings of these products. When you misapply electrical products in this manner, the heat that may be generated and/or arcing and sparking that result could start a fire. Electrical ratings of the product should be reviewed to ensure the cord is sized properly for the application.

3. **Arc Fault Circuit Interrupter* Protection:** Updating the circuit breakers in your home from standard breakers to those that are designed to detect arcing and sparking that may cause electrical fires provides that additional level of protection against arcing faults. Many new homes may have these advanced arc fault circuit interrupters in place, but even new homes will have opportunities to increase the level of protection. See additional information in the box on how to determine if your circuit breakers are Arc Fault Circuit Interrupters.

4. **Appliances:** When using your appliances, look for signs of damage. Ensure you are using the appliance in the manner it was intended to be used. Consult the manufacturer if needed.

5. **Hire a Professional:** It is always best to hire an electrical contractor to help you perform a safety check in your home. Hiring a professional trained in electrical safety is a good start to help protect your safety as well as that of your family.

Are Your Breakers AFCIs?

To determine if your existing circuit breakers are Arc Fault Circuit Interrupters, you can do the following:

- Locate your circuit breaker box and open the door.
- Look at the circuit breakers in the panel.
- Standard thermal-magnetic circuit breakers make up the majority of black switches found in rows in your box.

- A test pushbutton near the handle of the breaker will be an indication that the breaker is not a standard thermal magnetic circuit breaker. It could be a ground fault circuit interrupter (Shock Protection) or arc fault circuit interrupter.

- Your immediate opportunity for action is breakers marked with a lSA and 20A and do not have a push to test button. An evaluation of those in your panel that do have a push to test button should be conducted by your electrical contractor.
- Hiring an electrical contractor to perform this and other safety checks in your home is advisable.

6. **Listed Products:** Always look for the label of a nationally recognized testing laboratory (e.g. UL) to be certain that your products comply with requirements of national safety standards.

**AFCIs are available as circuit breakers (CB) and receptacles (Outlet Branch Receptacle - OBC). CB AFCIs are tested and listed to UL-1699 requirements. OBC AFCIs are tested and listed to UL1699A requirements. Both types can be installed per the 2023 National Electrical Code®. This paper addresses CB AFCIs.*

Low Voltage Distribution Equipment Section
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