

Is Aluminum Wiring A Fire Hazard?

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Back in the 1960s and early 1970s, home builders often used aluminum wiring for new homes instead of the increasingly expensive copper alternative. Today, many or most homes built during that period still have the original aluminum wiring. According to the U.S. Consumer Product Safety Commission (CPSC), there are very serious safety risks in continuing to live with old aluminum wiring in your home. The longer the weak wiring type stays in use, the worse its condition becomes. Read on to understand why aluminum wiring is a serious fire hazard and should be promptly replaced.

Is Aluminum Wiring Dangerous?

Why should all aluminum wiring installed before 1972 be recognized as a serious safety hazard and replaced? Aluminum wire degrades and fractures inside the sheathing over time, which causes overheating of the wire and loosening of connections. But how does this happen?

- Aluminum expands much more than copper when heated by electricity flowing through it. The excessive heat buildup causes the wire to expand. That can force the wire to push loose from terminal screws, loosening critical connections, such as at outlets.
- With aluminum wiring connections loosened, the metal is then exposed to the air. Aluminum is very prone to oxidation, corrosion, and warping from such exposure.
- The disintegration inside the electrical wire creates resistance to electricity passing through, impeding its flow to outlets and causing the wire to become excessively hot. At connections, it can become so hot that the wire ignites the building material around it.

- Additionally, aluminum wiring is significantly less flexible than copper, and it's more fragile. That problem adds further to it breaking down and becoming a fire hazard.

What's the Risk Level in Homes with Electrical Wiring?

There are so many electrical connections in a home, and today's families use a constant flow of electricity to power everything we do. So, the increasing risk from old aluminum wiring cannot be ignored. The CPSC finds that a home with pre-1972 aluminum wiring is at a 550% higher risk of having a fire hazard at an electrical outlet than homes with copper wiring.

How to Identify Aluminum Wiring in Your Home

If your house is 50 years old or older (built in the mid-1970s or earlier), then it probably has aluminum wiring. To confirm that your wiring is aluminum, find some exposed wiring in your basement or garage and see the markings "Al" or "aluminum" on the sheathing. Do not touch the wiring. The plastic sheathing should protect you from shock but use caution. The marks can be difficult to see. If you need help, call the Master Electrician from our team will identify the wiring material, and, if needed, we will provide you with all information you need about replacing aluminum wiring in your home.

COPALUM Connectors

A partial solution to the problem of aluminum home wiring is to have a licensed electrician replace only the ends of the aluminum wires with COPALUM connectors. This will establish a good stable connection between the wiring and your outlets that won't degrade or become loose. That can help make your connections safe but doesn't solve the problem of the weak, inferior wire that degrades and breaks down. Only replacing the aluminum with copper wiring will correct that problem.

Replacing Your Home's Aluminum Wiring

Replacing aluminum wiring with copper is the best way to eliminate the kinds of fire hazards discussed above. Of course, replacing the electrical wiring in your home is not a suitable DIY project. Call DK Electrical Solutions for professional electrical installation. Our Master Electricians have the expertise and tools necessary for top-quality whole-home rewiring safely and efficiently.

To identify and replace old aluminum wiring in your home, call DK Electrical Solutions at (609) 796-4177, or contact us here online today!
