

A Home That Has Aluminum Wiring

Disclaimer: *The information in this handout are suggestions only and intended to give the reader a better understanding of some options that may be helpful to them. Up Close Inspections LLC is not liable for any actions taken by any individual reading this hand out.*

Why did they start using aluminum in the first place?

Aluminum wiring was installed in most of the homes built between 1965 - 1973 because the high use of copper by the military during the Vietnam War. This made obtaining copper wire difficult and expensive. The alternative was aluminum wiring which was plentiful and cheap, but the potential danger it posed was not recognized at the time.



What makes aluminum wiring more dangerous than copper?

Aluminum by nature is a softer metal than copper, it contracts and expands as it heats and cools. Also, it is more susceptible to oxidation, which is a thin film that forms on the surface of the metal. The aluminum stranded wiring you see on the 220 volt appliance and air conditioning circuits do not pose a problem.

How can I tell if the house has aluminum wiring?

The best way to know is to have it verified by an electrician or home inspector. However, with care the home owner can do it themselves.

What special precautions need to be taken when working with aluminum wiring?

Our best advice is to have all the wiring evaluated by a licensed electrician for safety, preferably one that is familiar with aluminum and if you can keep from changing out receptacles, switches and lighting that would be best, just don't mess with it. I know if you are doing a complete rehab, you will want to change out lights, old and dirty light switches and receptacles with many coats of paint, but if you can clean them up, you are better off.

Other options are:

1. Rewire the house with copper wiring. This is not much of a choice since a typical house could cost ten thousand dollars or more.
2. You can connect copper to a typical outlet or switch and attached to it to the aluminum wire in the wall. You would need to hire an electrician to make the connections using the approved method called Copalum, which utilized a special connector and a high pressure crimping tool to make the connection. This would be very expensive if you even could find an electrician that still has the equipment. I have heard of around \$10.00 - \$15.00 per connection.

3. Change out switches and receptacles with special aluminum rated ones. You can get them at electrical supply companies, online or I have found them at Lowes. The problem is they are more expensive. You will pay about \$2.00 for a normal copper rated wall outlet, but an aluminum rated one will cost about \$5.50 and a wall switch is about \$6.50. Needless to say, this will add up costs to your bottom line, but still cheaper.

4. There is a connector sold that has had good testing results named Alumiconn. These are still about \$3.00.

The other precaution to take is to use an anti-oxidant paste on all connections. This is a thick grey paste that keeps the wire from oxidation and help prevent resistive heat.



The important thing to remember when working with aluminum wiring is that it is not the wiring itself that makes it dangerous, it is the wiring connections. I am reminded of last year when I inspected a home that was featured on the TV show "Flip this House" and the guys that did the rehab, did their own wiring and just used a normal twist connector to join wires together. A licensed electrician had to be called in to rewire the entire home and the price of the home had to be lowered to allow for these repairs. They didn't want to spend the extra money on the proper outlets and switches, and it wound up costing them more in the long run. You want to put out a quality and safe home and not put others at risk, so please be careful when dealing with homes with aluminum wiring.

