

# ALUMINUM WIRING

"Homes wired with aluminum wiring are 55 times more likely to have one or more connections reach 'fire hazard conditions' ".

*U.S. Consumer Product Safety Commission Pub. # 516*

## When was aluminum wiring used?

Most homes built between 1965 and 1974 contain aluminum wiring

## What are the warning signs?

- ✓ Flickering lights
- ✓ Lights that burn out quickly
- ✓ Circuits that do not work without breakers tripping
- ✓ Smell of burning plastic
- ✓ Outlets or switches are hot to the touch

Important note: Not all failing aluminum wiring provides these warning signs

## Why is Aluminum hazardous?

- ✓ CREEP - Aluminum creeps away from a device screw causing a higher resistance termination
- ✓ OXIDATION - Aluminum oxide is a thin film that actually works as an electrical insulator
- ✓ THERMAL EXPANSION – As expansion loosens the connections, the temperature increases, causing insulation melting, arcing, shorts and sparks.
- ✓ GALVANIC CORROSION - Occurs when Aluminum and Copper wires are joined together and a current is passed through them

## How do you fix the problem?

<b>Aluminum Wiring Repair</b>	<b>Advantages</b>	<b>Disadvantages</b>
Total rewire	the best solution	expensive
Pigtail CU to AL using wirenuts	low cost	not safe
Inspect. Abrade, Anti-Oxidize and Tighten	relatively inexpensive	temporary solution
Replace with CO-AL devices	relatively inexpensive	not available for all devices - fans, GFCI's
Copalum Crimp	permanent, safe, complete repair	costly, labor intensive

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