CPSC Repairing Aluminum Wiring

A complete look at the treatment and repair of aluminum wiring and prevention of the fire hazards they pose.

The U.S. Consumer Product Safety Commission (CPSC) staff and other government officials have investigated numerous hazardous incidents and fires throughout the nation involving aluminum branch circuit wiring. A national survey conducted by Franklin Research Institute for CPSC showed that homes built before 1972, and wired with aluminum, are 55 times more likely to have one or more wire connections at outlets reach “Fire Hazard Conditions” than homes wired with copper. That survey encompassed only the wire connections at outlets. It did not address other types of aluminum ire connections and splices in homes that are also prone to fail. No information was developed for aluminum-wired homes built after 1972.

The fire hazard investigated by CPSC occurs at connections with aluminum wire, including receptacles or switches and junction boxes; or the hazards occur with major appliances, including dishwashers or furnaces, for example. There are several deterioration processes in aluminum wire connections that cause increased resistance to the flow of electric current, resulting in damage that is cumulative in effect. That increased resistance causes overheating, sometimes at…