

What's Wrong with using Ideal 65 and traditional twist-ons to repair aluminum wiring in residences?

"... in practice, many more of these [aluminum branch circuit wiring] systems seem to have been retrofitted with a product called the Ideal Twister Al/Cu (aluminum-copper) connector... The Twister complies with the National Electric Code and has been Underwriters Laboratories-listed... However, **the CPSC does not approve that fix, agency spokesman Scott Wolfson said. "We know that there are those in the electrical safety community who disagree with us, but we remain firm in our position."**

The Washington Post, January 13, 2007 *Five that Failed; These Building Practices Used to Be Popular, Now They're Nothing but Trouble.* http://www.washingtonpost.com/wp-dyn/content/article/2007/01/12/AR2007011201134.html?nav=rss_realestate/own

"The purpose of this letter is to bring to your attention the results of tests on a connector that UL recently listed for aluminum wire applications. The connector, the **Ideal #65, does not meet the UL486C heat-cycle test performance requirements when tested with splices representative of the common pigtail combination** used in aluminum-wired homes, even though the connector is UL listed for those wire combinations."

Letter to UL President Thomas Castino, 1996 from Dr Jesse Aronstein, Consulting Engineer
<http://www.inspect-ny.com/aluminum/ideal65-1.txt>

"Other methods - not recommended: Warnings regarding other "repair" methods which are not recommended are discussed [below](#), **such as the Ideal 65 purple "Twister" connector...**"

From: <http://www.inspect-ny.com/aluminum/aluminum.htm>

"... the U.S. Consumer Product Safety Commission (CPSC) staff does not consider the use of the twist-on connector (including the Ideal No. 65) to be a suitable repair for aluminum wiring in residences."

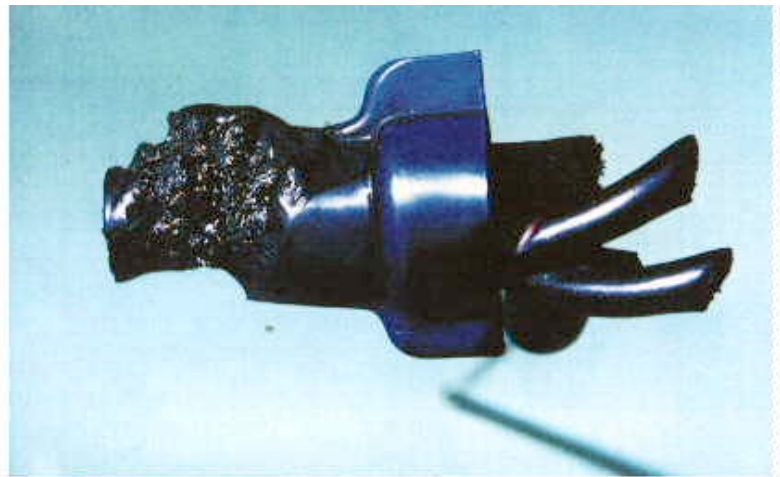
Letter to Dr Jesse Aronstein, Consulting Engineer, from the Consumer Product Safety Commission.
<http://www.inspect-ny.com/aluminum/twistcpsc.htm>

"Independent Tests indicate Ideal-65 Twist-on retrofit connector fails UL 486C Safety Standard despite UL-listing"

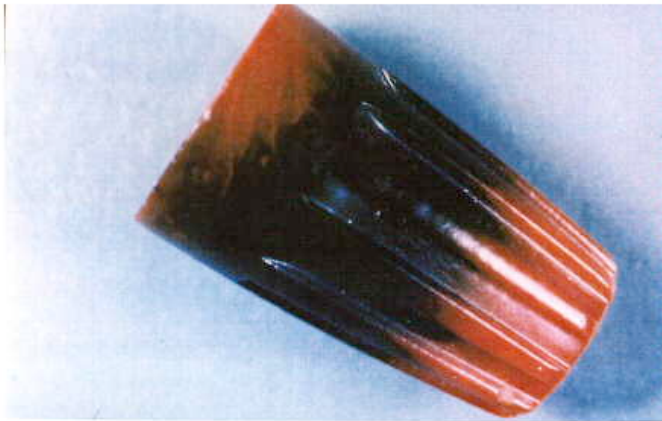
From: <http://www.inspect-ny.com/aluminum/aluminum.htm#otherconn>



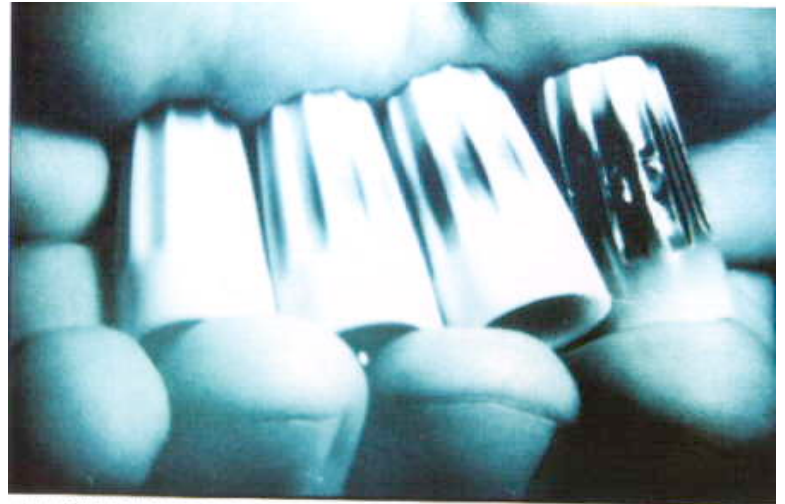
Aluminum Wire Repair, Inc© 2004



12. THIS FIELD FAILURE SHORTED TO GROUND when the thermoplastic insulating shell softened due to overheating in the connector spring area. Short circuits, due to insulation deterioration on the connector or wire, add to the fire hazard posed by the failure of aluminum-wired twist-on connections.



16. THIS LAST FIELD FAILURE AGAIN SHOWS THE TYPICAL OVERHEATING BAND. A number of field failures have been shown to emphasize that they are not rare. Both UL and CPSC investigated field performance and uncovered a substantial number of failures, with the worst-case failures resulting in structural fire and fatalities.



10. FIELD FAILURES ARE ALSO SEEN. These were from an aluminum-wired senior housing complex in the DC area. A large number of these twist-on connector splices were found with various degree of heat damage in an on-site inspection in which CPSC participated. (photo courtesy of Tom Donahue)



4. BURNOUTS LIKE THIS OCCURRED WHEN VARIOUS UL-LISTED TWIST-ON CONNECTORS WERE TESTED for the pigtailing application, installed as per the manufacturers' instructions. Poor test results for twist-on splices with aluminum wire were reported by UL, Battelle, CPSC, and various wire and device manufacturers.