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EVALUATION OF A SETSCREW CONNECTOR FOR ALUMINUM WIRE

A new setscrew connector for residential aluminum wiring repair is available, and tests are conducted to evaluate its performance. The connector is similar to a three-hole section of neutral busbar that is enclosed in an insulating housing. The wire insertion holes are filled with a corrosion inhibitor compound. Tests are conducted as follows: initial resistance (with and without conductor abrasion), UL high-current "heat cycle" test, ASTM environmental test, and a mechanical disturbance test. Additionally, the current partitioning through the connector (portion of current carried through the screws vs. directly from conductor to connector body) is evaluated. The results are compared with those previously obtained for two other fundamentally different types of connectors being marketed for the same application.

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