

Patent Pending

SD# 15072

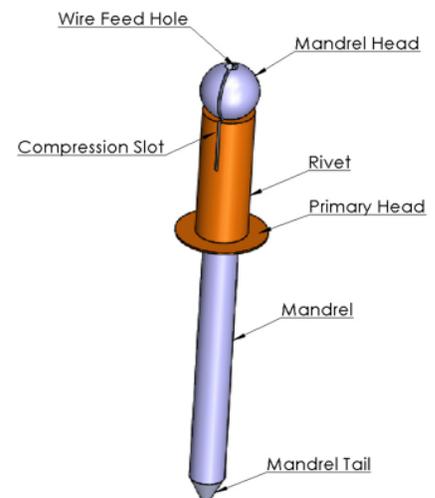
Technology Readiness Level: 4

*Key Elements Demonstrated in Laboratory Environment*

## An easy-to-install wire rivet for making electrical connections to multiple substrates in less time with fewer parts

There is a need to provide a simple and quick electrical connection to one or many conductive substrates that does not require abrasion of the substrate surface or a complicated assembly process requiring thread tapping, threaded studs, bolts, nuts, washers, or two-hand access. The Wire Rivet concept is a simple modification to a common mechanical fastener that provides both a robust mechanical and electrical connection between a wire and substrate(s).

Sandia's Wire Rivet technology provides a simple and quick electrical connection to one or multiple conductive substrates using well-known rivet technology. The mandrel head on the Wire Rivet has a wire feed hole and a compression slot to crimp the wire in place. The Wire Rivet, which installs like any other rivet using off-the-shelf installation tools, connects the wire to a conductive substrate utilizing only a hole in that substrate. This allows multiple substrates to be fastened together at an equal electrical potential utilizing the installed wire. The drilled hole into the substrate(s) also allow a pristine conductive surface for the rivet to diametrically expand and electrically interact, as opposed to traditional methods that require abrasion and a complicated assembly process. The electrical resistance is equal to or better than that of traditional means, yet the installation requires fewer parts and decreased labor time. A low or controlled impedance can be tailored with the rivet and wire material selection for use when frequency-specific performance is desired.



### TECHNICAL BENEFITS

- Provides a mechanical and equal electrical connection between multiple substrates in one easy step
- Requires fewer parts, decreased labor time, and reduced installation complexity
- Uses common off-the-shelf installation tools

### INDUSTRIES & APPLICATIONS

- Global rivet manufacturers
- Industrial fastener markets
- Numerous mechanical fastener applications