



## Solving EMI in Transit Systems with Shrink-N-Shield

### PROBLEM:

An engineer from a systems integration company encountered electromagnetic interference (EMI) issues while installing new equipment for a major customer. The project involved upgrading communication hardware in the customer's legacy public transit systems, including buses and light rail. During the system integration, EMI was suspected to be entering the system through the new cables added to the existing vehicle harnesses.

### REQUIREMENTS:

The engineer needed a shielding solution that met the following criteria:

- High shielding effectiveness to ensure a reliable, noise-free solution.
- Durable, long-lasting protection for the harness to prevent future damage.
- A clean, professional appearance, better than the typical tape-wrapped repair.

### SOLUTION:

**Product: Shrink-N-Shield (2:1) – Cut Pieces**

Zippertubing's design engineers assisted with troubleshooting the system installation. After testing several areas of the reworked harness, it was determined that EMI was entering the system near one of the new connectors. The existing braided shielding didn't fully cover the wires as they entered the connector's backshell.

Zippertubing suggested several options and provided material samples for evaluation. Ultimately, the customer chose Shrink-N-Shield due to its dual-layer design that offers both shielding and protection in one installation step. The heat shrink tubing also matched the polyolefin tubing used elsewhere in the harness, ensuring a consistent and durable solution.

### CONCLUSION:

After completing several installations, the integration engineer contacted Zippertubing again with a new request. They wanted to improve consistency and reduce waste during the installations. Some technicians were using incorrect lengths of Shrink-N-Shield, leading to scrap and inconsistent results.

Zippertubing recommended pre-cut lengths of the tubing, ensuring that each technician received the exact length required for each installation. This solution resulted in more consistent installs and eliminated scrap from incorrectly sized cuts.

