



Custom EMI Shielding for Scientific Test Equipment

PROBLEM:

A manufacturer of scientific testing equipment noticed an EMI immunity issue with a cable inside their machine. They were having a difficult time effectively and consistently installing shielding on this particular harness. Their typical methods of shielding cables were causing several problems including: lengthy production times, inconsistent shielding coverage, and creating an unprofessional & unfinished appearance on their state-of-the-art machine.

REQUIREMENTS:

This customer was looking for a custom EMI shield that would improve upon their current shielding methods in several ways:

- The EMI shield should have consistent shielding coverage over the entire cable, including where it bends and curves. Metal braid would be unacceptable due to expansion and widening of the braid at the outside of these curves.
- The custom shield should be quick and easy to install in their production process.
- The RF shield needs to have a method of grounding to the machine case at both ends.
- The final installation should have a finished and professional appearance matching the rest of the hardware.



SOLUTION:

Custom Hook-N-Shield

Zippertubing provided a customized version of their EMI shielding mesh, closed with sections of nylon hook-and-loop in a shape exactly matching the wiring harness. By utilizing SHX-4 mesh, Zippertubing was able to create a conductive shield that could flex with the harness but not expand like braided sleeving to provide more consistent shield coverage. This custom EMI cover also included grounding braid extensions with lugs for easy attachment to the machine case. Additionally, by working with the product engineer, Zippertubing was able to include termination labels and a cinch feature that would save even more time for their production group.

CONCLUSION:

The customer was extremely satisfied with the final shielding solution for its ability to meet the technical requirements and also provide the professional appearance they were looking for in their machine. The Hook-N-Shield solution improved their production time, while also greatly improving installation consistency.