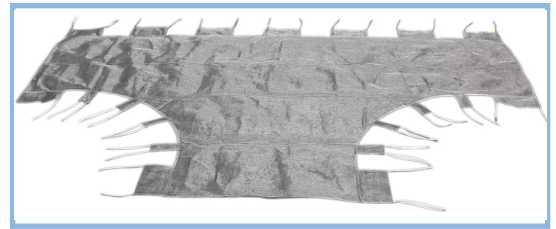




Custom EMI Shielding for Power Plant Wiring

PROBLEM:

A company that was contracted to maintain and update power plant infrastructure needed a way to add EMI shielding to the existing cabling. Over the years, additional cables were added to the point where the wiring was filled above the top of the cable trays. Additionally, the metal housing for the cable trays was bent and warped in some areas that prevented pre-fabricated cable tray covers from being used.



REQUIREMENTS:

The power generating facility needed to provide 360° EMI coverage around these critical wiring harnesses. The metal cable trays would be sufficient on the sides and bottoms but the top also needed to be protected. The company installing the shielding needed to use only materials that were approved to be in the facility, which excluded many common PVCs and plastics. Additionally, the maintenance company would be under extreme schedule constraints. The power plant would have to come offline during a small maintenance window, and any extra time beyond that window would incur large penalties on their contract.

SOLUTION:

Custom Zippertubing Mesh Shielding

Zippertubing design engineers created a set of EMI shielding mesh covers to be used on these metal cable trays. The (SHX4) SnCuFe mesh material was approved for use in the facility and would provide adequate shielding protection. The flexible EMI mesh was sized large enough to fit around the over-filled cable trays with plenty of room to account for bent or warped trays. Zippertubing engineers also outfitted the sides of the covers with mesh extensions that could be secured with approved metal cable ties. This would allow the installers to quickly position and install the shielding during their short time on-site.

CONCLUSION:

The maintenance company reported that the custom mesh covers lined up very well with the cable trays they needed to cover. The flexible mesh was able to accommodate all of the wiring, even in areas where they were filled well above capacity. The contractor was able to complete all of their maintenance activities quickly and within their allotted time window without incurring any overage penalties.