

Metal Thermal Strap Cleaning Protocols

We understand that many thermal components provided by Thermal Space are integrated into contamination-critical systems. Therefore, we broadly employ a comprehensive cleaning process that works in conjunction with our manufacturing and packaging guidelines to ensure that all of our thermal straps are cleaned and are maintained clean from the point they leave our facility until full-level integration at your facility.

Our standard cleaning process addresses three significant areas post-fabrication: 1) surface debris removal, 2) removal of oils and other condensable volatile matter, and 3) removal of surface oxides to create a superior interface for heat transfer.

Our staff of chemical and mechanical engineers have worked diligently to formulate an optimum set of cleaning process steps to make sure your thermal straps are ready for use out of the package. Standard steps include:

- 1) A stream of clean high-pressure air or nitrogen to remove any particle matter from the strap surfaces
- 2) Ultrasonic cleaning at elevated temperature with a degreasing agent to remove any oils or other non-volatile residues that could be contained deep within the strap cables
- 3) Ultrasonic cleaning at elevated temperature with a mildly acidic reagent formulated especially for use with copper to remove surface oxides. This step brightens and cleans the metal, providing a fresh surface on the strap terminals that enables the most efficient thermal interfacing.

Once thermal straps have been chemically cleaned, they are thoroughly rinsed and allowed to dry in a warm nitrogen purged environment to prevent any re-oxidation. The straps are then either packaged into individually purged or evacuated bags or held under active nitrogen purge until being bagged in preparation for shipment.

In addition to our standard cleaning protocol, we offer cleaning to specific industry standards and/or cleanliness verification testing, if needed. We have experience working to several cleaning standards including MIL-STD-1246C and IEST-STD-CC1246E, and non-volatile residue (NVR) testing in accordance with ASTM F331.