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## Breakthrough Technology in PVD Parts Cleaning

*Materion Introduces New Chemical Deposition Removal*

BUFFALO, N.Y.--(BUSINESS WIRE)-- Materion Advanced Materials Group, a business unit of Materion Corporation (NYSE:MTRN), announced today a new service to customers using precious and non-precious metals for physical vapor deposition (PVD). Customers can now turn to Materion for a breakthrough technology in the removal of deposition material from their chamber parts. A unique copper parts cleaning process, developed by Materion chemical engineers, is being offered as an alternative to more traditional cleaning methods.

The innovative cleaning approach chemically removes deposition materials and surface contaminants from copper without the use of aggressive mechanical processes. This technology offers multiple advantages as it minimizes harm and extends the useful life of expensive copper parts within the customers' deposition chamber.

"Chemical cleaning of copper parts is a huge advancement over conventional means," commented Donald Klimkowicz, President, Materion Advanced Materials. "By preventing surface damage and reducing the need for expensive replacement parts, our method lowers the total cost of ownership for our customers."

### Cleaning Copper Parts

Physical vapor deposition is a process that coats products with thin layers of precious or non-precious metal. During PVD, the vacuum chamber and surrounding components are impacted and become coated with depositions such as gold, titanium, nickel, copper, platinum or other high-value metals. In order to recover as much valuable metal deposition as possible for the customer, several methods can be employed. Mechanical removal, while generally employed, is not recommended for copper parts as it can harm the underlying copper. Other traditional Materion chemical removal methods, such as those used to remove gold from stainless steel, are not suitable as they would attack the copper part surface.

Therefore, to solve the problem of potential harm from these methods, Materion invented an alternative chemical process specifically designed to remove precious metal from copper without damage. Since shield kit parts, such as those used in PVD evaporation processes, are frequently made of copper due to the need for excellent thermal conductivity, this new cleaning method offers a superior solution.

To maximize effectiveness, Materion's chemical cleaning method is tailored toward the customer's particular deposition and/or substrate material. In addition, customized surface treatments and part texturization after cleaning are also available. This new copper parts cleaning technology and other traditional precision parts cleaning processes are offered at all of Materion's worldwide cleaning locations.

Materion Advanced Materials Group is a Materion Corporation business. Materion Corporation is headquartered in Mayfield Heights, Ohio. The company, through its wholly owned subsidiaries, supplies highly engineered advanced enabling materials to global markets. Products include precious and non-precious metals, inorganic chemicals and powders, specialty coatings, specialty engineered beryllium alloys, beryllium and beryllium composites, and engineered clad and plated metal systems.

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