



MATERION



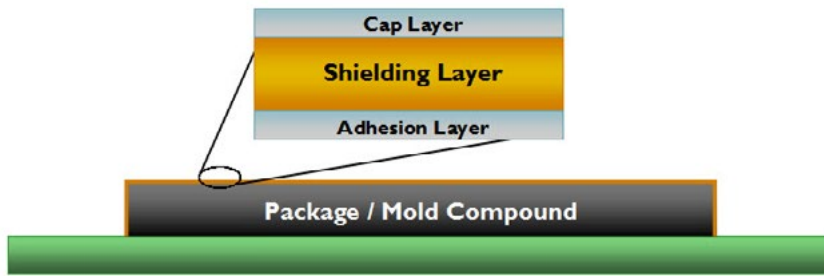
**ADVANCED
MATERIALS GROUP**

EMI Shielding
Materials

EMI Shielding Materials

The Challenge

The increasing demand for performance, miniaturization and portability of high speed digital and RF electronic devices necessitates multiple high performance semiconductor devices operating on different frequencies in a confined area. This increases the potential for significant intra-system electromagnetic interference (EMI) problems. Traditional EMI cover shields have proven to be too bulky, expensive, occupy too much space and generally are inefficient for today's technologies.



The Solution

Conformal EMI shielding applied directly to electronic packages is an increasingly popular method to prevent electromagnetic interference in sensitive components. For many packages, this shielding is applied in the form of thin metallic layers sputtered onto the packages. The resulting conformal coating replaces conventional "can" shielding with a lower cost, smaller footprint solution that provides more effective EM shielding.

The conformal coatings typically contain three components; an adhesion layer, a shielding layer, and a cap or protective layer.

Achieving the necessary performance and consistency demanded by the industry places stringent requirements on the quality and uniformity of the sputter target materials. Materion, a leading global supplier to the industry, works closely with both OEMs and packaging houses to meet these requirements.

Preventing Electromagnetic Interference – Materials for EMI Shielding

EXTENSIVE IN-HOUSE SPUTTERING TARGET MANUFACTURING CAPABILITIES

- Mature supply chain of materials used in process
 - Cap and/or adhesion layer materials such as Titanium, Chromium, and Stainless Steel
 - Shielding layer materials such as copper, aluminum, or nickel
- SPC control on critical elements
- Rigorous quality checks – ship to control
- Fully integrated analytical lab
- CNC machining
- Scalable from R&D to production
- Technical expertise in developing alloys
- High quality, high performance
- Excellent adhesion, strength and uniformity
- Multiple target sizes including 200mm, 300mm, or other
- Single or multi-layer applications
- Semiconductor cleaning & packaging conditions

APPLICABLE MARKETS

- Consumer electronics
- Telecommunications
- Defense electronics
- NAND devices & Logic Packages



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MATERION CORPORATION
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MATERION ADVANCED MATERIALS GROUP is a global supplier of premier specialty materials & services. Our offerings include precious & non-precious thin film deposition materials, inorganic chemicals & microelectronic packaging products. In addition, we have related services to meet our customers' requirements for precision parts cleaning, precious and valuable metal reclamation and R&D. We support diverse industries including semiconductor, LED, data storage, precision optics, large area glass, defense and aerospace.