



MATERION

ADVANCED MATERIALS

MAKING ADVANCED MATERIALS THAT IMPROVE THE WORLD!

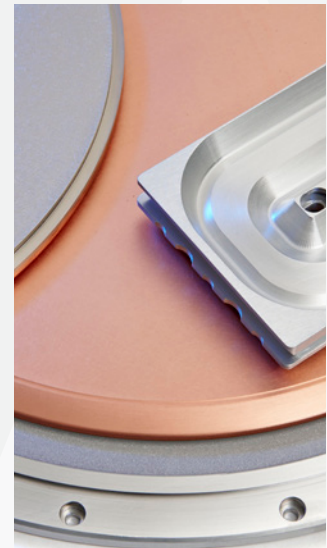
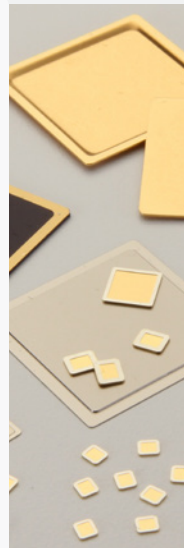
Materion has a long history of successfully delivering high-quality customized products and services. This legacy of excellence is made possible by our commitment to our customers and our relentless focus on their long-term success. Our recent acquisition of Heraeus Target Business demonstrates our strong position in the industry and our desire to expand globally to provide better products and resources for our customers. Together we are a manufacturing community with over 200 years of combined experience. With a rich history and a promising future, Materion can ensure another century of global innovation and dedicated service to our customers.

ADVANCED MATERIALS INVESTED PARTNER SECURE FUTURE

PRODUCTS

High-quality, Reliable, Innovative

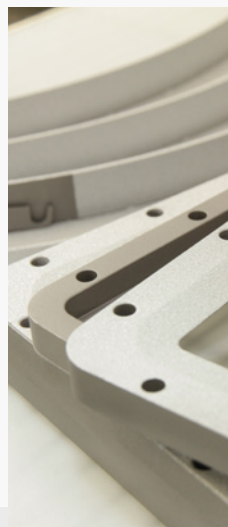
- Precious Metals & Non-Precious Metals
 - Sputtering Targets – Planar & Rotatable
 - Evaporation Materials – Grain, Slugs, Rod, Wire, Starter Sources
- Inorganic Chemicals
 - Powders – Fluorides, Nitrides, Oxides, Borides, Phosphides, etc.
 - Evaporation Materials – Grain, Pieces, Pellets, Cones, Ingots, Chunks
- Microelectronic Packages – Lids & Preforms, Air Cavity & Ceramic Packages, Plated Flanges
- Braze & Solder Materials – Silver, Lead, Lead-free, AuSn, Custom Alloys



SERVICES

Lowering your total cost of ownership

- Target Bonding
- Backing Plate Management
- Shield & Copper Parts Cleaning
- Reclaim & Recycle
- Precious Metal Refining
- Applications Engineering



NEW PRODUCT DEVELOPMENT

Broad technology capabilities with strong product development and R&D proficiency

- Redundant development facilities
- Highly regarded scientists & engineers
- On-site assistance
- Bench to full-scale production
- Custom form, alloy or feature
- High-purity precious metals
- Challenging chemistry & phases



GLOBAL EXPANSION

Convenient Sales & Service Locations

- 7 in North America
- 4 in Europe – UK, the Netherlands, Ireland & Germany
- 5 in Asia – China, Singapore, Taiwan, Philippines & Korea
- 20 Representatives in 15 different countries



TECHNICAL MARKETS

Supporting new devices, trends and technologies

Semiconductor, LED, Wireless, Display, Advanced Memory, Optics, Alternative Energy, Industrial, Specialty Battery, Large Area Coatings – Solar & Glass, Wear Resistance Coatings, Medical and Security

SPUTTERING TARGETS

Expanding our capabilities, technologies and material offerings

- Materials available in pure metals as well as standard and custom alloys
- Technologies include – Vacuum Induction Melting, Powder Pressing, Air & Vacuum Sinter, Continuous or Static Casting, Cast and Plasma Sprayed Rotatable Targets

Market	Material Offerings Include:
Architectural & Automotive Glass	Gold, Nickel, NiCr, NiV, Palladium, Ruthenium, Silicon, Silver, Tin, TiO, Zinc
Solar	Aluminum, Al ₂ O ₃ , Copper, CuInGaSe, CuGa, Gold, Indium, NiV, Transparent Conducting Oxides - Cd ₂ SnO ₄ , TiO ₂ , Silicon, Silicon Alloys, Silver, ZAO, Zinc Alloys, ZnO, ZnTe
Display	Aluminum, Copper, Chromium, LiF, Molybdenum, Silicon, Silver
Data Storage -Thin Film Head	Aluminum, Cobalt, Gold, Iridium, Iron, Nickel, Palladium, Platinum, Rhodium, Silver, Tantalum, Titanium, Tungsten
Semiconductor	Gold, AuSn, AuGe, Nickel, NiPt, Palladium, Platinum, Silver, Titanium, Tungsten, WTi



Materion Advanced Materials – Primary Sales Offices

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