



MATERION



ADVANCED MATERIALS

Materials for
Large Area
Glass Coating

Materials for Large Area Glass Coating

The Challenge

To achieve optimal results when coating glass requires the use of sputtering targets that are capable of consistently producing uniform thin films. Also, the materials employed must be of high purity and meet or exceed industry standards. Since many of the coating processes and deposition chambers are unique to a given application, it is important that a wide variety of precious and non-precious metals and alloys be available in custom sizes and forms.

The Solution

Materion, now expanded with the addition of the Heraeus target materials business, is the world's leading supplier of sputtering targets for the glass coating industry.

- Processes for target materials that deliver consistent products that correspond exactly to our customers' specifications
- High purity materials with optimized microstructure for complete coverage
- Customizable target forms & alloys that exceed performance standards
- Targets designed for your individual deposition chambers

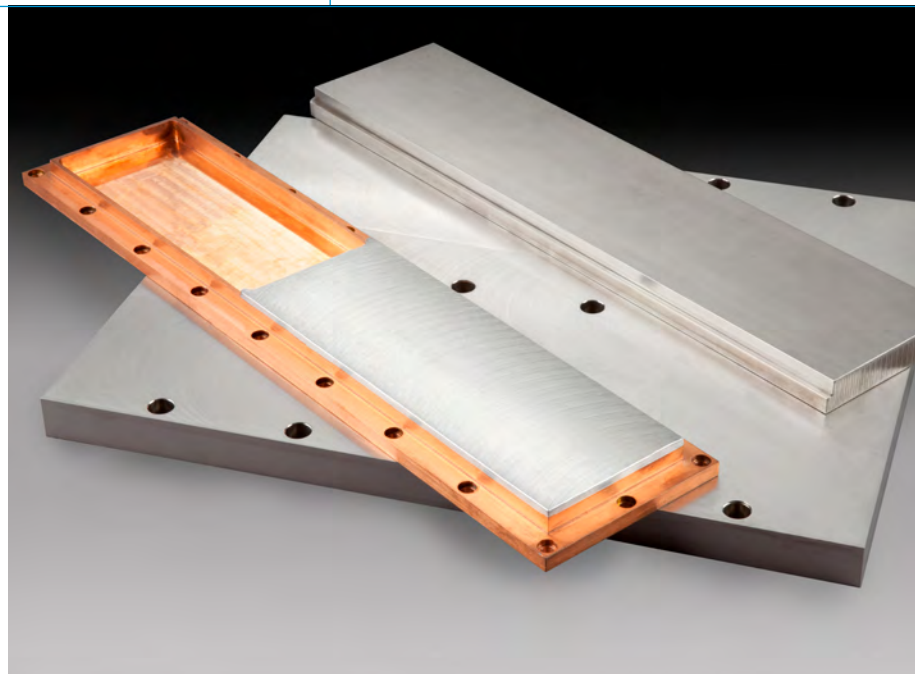
BENEFITS

Materion offers the convenience of a global manufacturing network.

- 25+ years experience in large area coating
- Faster line speeds
- Longer production runs
- Better material utilization
- Large geometry materials
- Leader in innovative materials development
- Full range R&D assistance
- All production & testing certified ISO 9001
- Certified Conflict-Free metals

APPLICATIONS

- Architectural glass
- Automotive glass
- Residential glass
- Mirrors
- Photovoltaics
- Specialty films



Materion ... Materials to Advance the World's Technologies



MATERION

MORE ABOUT OUR TARGETS

Cylindrical shaped, rotatable targets deliver tangible production and cost advantages:

- Provide smooth sputtering behavior
- Improve material utilization
- Extend production cycle times
- Enable high power sputtering

Planar and rotatable targets:

- Produced in different shapes and lengths up to 13.2 feet (4 meters)
- Reproducible materials – Consistent from lot- to-lot, target-to-target
- Customized manufacturing techniques offering dedicated material characteristics

CAPABILITIES

Materion deploys numerous state-of-the-art production capabilities:

- Melting and Casting
- Powder Metallurgy
- Sintering and Hot Pressing
- Thermal Spraying
- Metal Forming
- Bonding
- Developing Innovative Layer Stack Materials

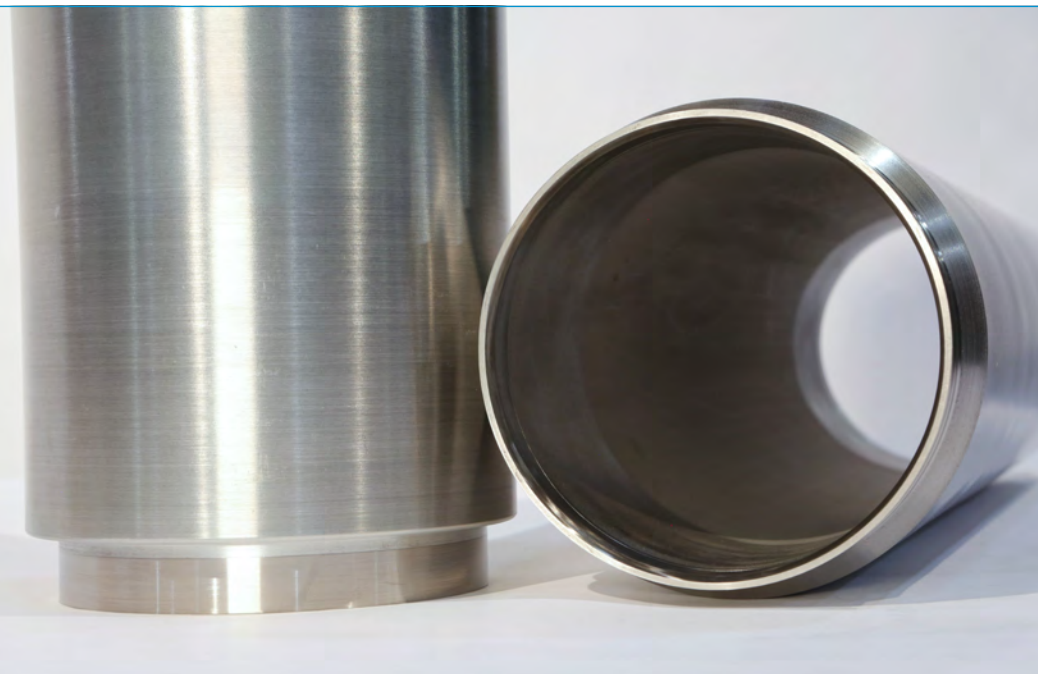
OTHER SERVICES

Materion offers multiple services to support your production requirements:

- R&D expert assistance
- Refining and Reclaim
- Vacuum Chamber Shield Cleaning
- Precious & Valuable Metal Management
- Material and Product Development
- Chemical Synthesis and Processing

MATERIALS FOR GLASS COATING APPLICATIONS

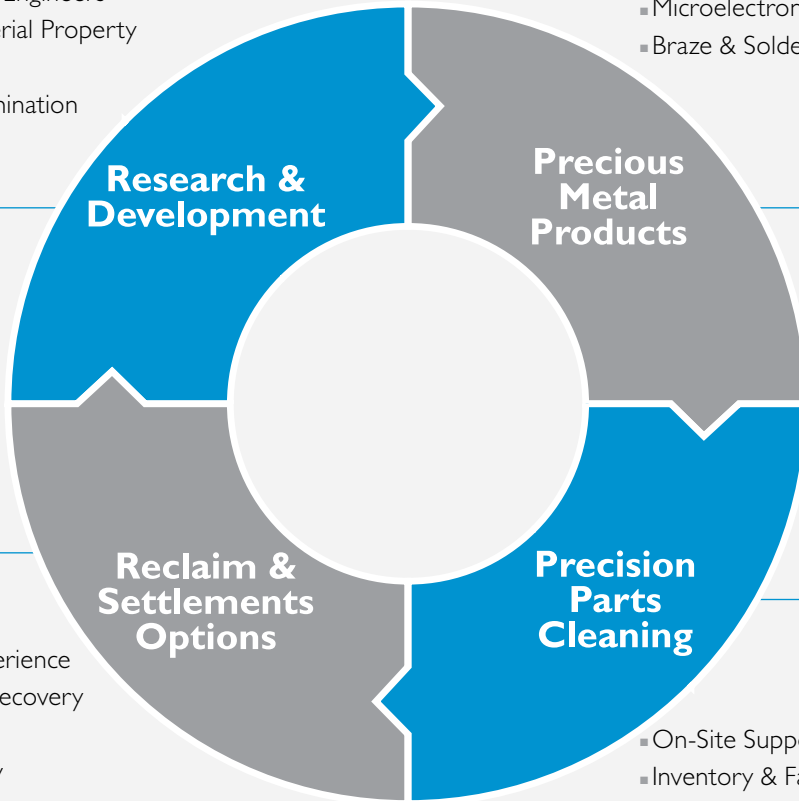
Ag	Silver
Ag alloys	Silver alloys
Al	Aluminum
Au	Gold
Bi	Bismuth
C	Carbon
Cr	Chrome
Cu	Copper
CuGa	Copper-Gallium
In	Indium
InSn	Indium-Tin
ITO	Indium-Tin-Oxide
Li	Lithium
Mo	Molybdenum
Nb	Niobium
NbOx	Niobium-Oxide
NiCr	Nickel-Chromium
NiV	Nickel-Vanadium
Pd	Palladium
Pt	Platinum
Ru	Ruthenium
Si	Silicon
SiAl	Silicon-Aluminum
Sn	Ti
SST	Stainless Steel
Ti	Titanium
TiOx	Titanium-Oxide
W	Tungsten
Zn	Zinc
ZAO	Zinc Oxide-Aluminum Oxide
ZnO	Zinc Oxide
ZnAl	Zinc-Aluminum
ZnSn	Zinc-Tin
Zr	Zirconium
Others	Available on request



MATERION PRODUCT LIFE CYCLE

- Dedicated Team of Experts
- Metallurgists
- Chemists
- Materials Scientists
- Processing/Application Engineers
- Microstructure & Material Property Analysis
- Precious Metal Determination

- Thin Film Deposition Materials
- Evaporation Materials
- Precious Metal Sputtering Targets
- Non-Precious Metal Sputtering Targets
- Microelectronic Packaging Materials
- Braze & Solder Alloys



- 100+ Years of Experience in Precious Metal Recovery & Refine
- Variety of Recovery Techniques
- Inventory Management
- Metal (Pool) Accounts
- Settlement Accuracy Database Manager
- Flexible Settlement Options

- On-Site Support
- Inventory & Fab Management
- Proprietary Chemical Cleaning & Degreasing
- Semiconductor Grade Final Packaging
- Advanced Surface Modification & Coatings



MATERION

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MATERION CORPORATION
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MATERION ADVANCED MATERIALS is a global supplier of premier specialty materials for large area glass coatings for architectural, automotive and residential applications. Our products include high purity precious and non-precious thin film deposition materials that deliver uniform coatings, increase yield and reduce costs. Our engineered solutions include new material development as well as standard planar, cast rotatable, and plasma sprayed rotatable sputtering targets with unique geometrics available in precious metal or customized alloys.