



MATERION



**MATERION PRECISION OPTICS
& THIN FILM COATINGS**

Engineered Films

Engineered Films

The Challenge

As technology advances, so does the demand for thin film coatings. New technologies are requiring atypical materials, integrated patterning and customized multi-layer metal coatings. It can be especially difficult to obtain the necessary end-product, since many coatings have only been tested in the laboratory and are not yet commonly available. Time-to-market is also a driving factor when transitioning a product from concept to full scale production.

THE SOLUTION

We have in-house processes to coat your provided materials or work with you to develop a turn-key non-optical product that meets your requirements.

- Expertise to coat the widest variety of atypical materials
- Scalability for production size
- Capability to coat up to four metal types within stacks
- Provide two-sided coatings as needed
- Customizable tooling for precise masking to coat intricate parts
- Convenient on-hand supply of high purity metals, up to four 9s pure Cr, Au, Pt, Ag and other exotic materials Ta, Nb, Tw, Ti



BENEFITS

Our breadth of experience and resources provide these advantages:

- Unique specialized coating services for any configuration and geometry
- Ability to coat substrates up to a 20" diameter
- Competitive costs due to precious metal supply chain
- Conflict-free metals
- Extensive history in thin film development
- Flexible engineering support
- Volume thickness and uniformity repeatability

SUPPORT TO THE MEDICAL INDUSTRY

We create "out-of-the-box" coating solutions to meet your exact performance requirements.

- Customizable tooling
- Conductive or insulative properties
- Solderable thin films
- Heat sink development
- Durability enhancement
- Corrosion resistance
- Contiguous or patterned
- Processes for coating plastics, ceramics, silica, Si and various metals
- Experienced with profilometry and XRF

MATERION PRECISION OPTICS & THIN FILM COATINGS, is a leading manufacturer and supplier of precision optical filters, flexible thin films and custom thin film coating services. We offer coating solutions for manufacturers and end-users in the defense, commercial, medical, space, science, astronomy and thermal imaging markets.

NON-OPTICAL THIN FILMS

Our broad scope of films include:

- ITO coatings
- Insulative coatings
- Custom patterned/masked substrates & devices
- 360° coating from a single coating cycle, used for cylinders, RF crystals, and tubes
- Coatings on ALN, PZT and other ceramics
- Solderable seal rings for hermetic packaging
- Solder bond coating for laser die attach
- Eutectic Au/Sn coatings
- Low temperature sputtering for polyimide & other plastics
- Wire bond/solder supports and electrodes

COATING MATERIALS AVAILABLE

We have extensive experience in setting-up coating processes to meet the customer's needs. Listed are the more common coating materials:

- Precious metals Au, Ag, Pt and Pd
- Au/Sn
- Ti
- TiW
- Cr
- Ni
- Cu
- Al
- Al₂O₃
- WRe

MARKETS

Our products and coating services support a variety of applications in defense, medical, and electronics industries:

- Solderable connectors
- Oil & gas
- Radar system tracking
- Medical probes & devices
- Consumer electronics
- Laser pyroelectric joulemeter
- Industrial systems
- Flex cables
- Security

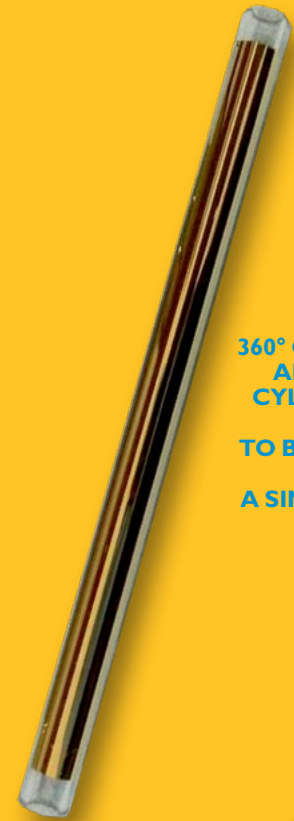
RELATED SERVICES

We constantly look for new ways to improve our customer's experience. In doing so we provide Au electro-plating and etching services (limited chemicals). This allows us to provide alternative manufacturing and pricing options.



Materion Barr Precision Optics...
Coat with Confidence!

www.materion.com/barroptics



**360° COATINGS
ALLOW FOR
CYLINDRICAL
DEVICES
TO BE COATED
WITHIN
A SINGLE RUN.**



**CUSTOM MASKING
ALLOWS FOR COATING
PLACEMENT PRECISELY
WHERE YOU WANT IT.**

Materion is a global advanced materials and services company, dedicated to providing solutions that enable our customers' technologies and drive their growth. Our products include precious and non-precious specialty metals, precision optical filters, inorganic chemicals and powders, specialty coatings, specialty-engineered beryllium alloys, beryllium and beryllium composites, and engineered clad and plated metal systems. The Materion business is structured to enhance our ability to provide customers with innovative, best total-cost solutions.

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