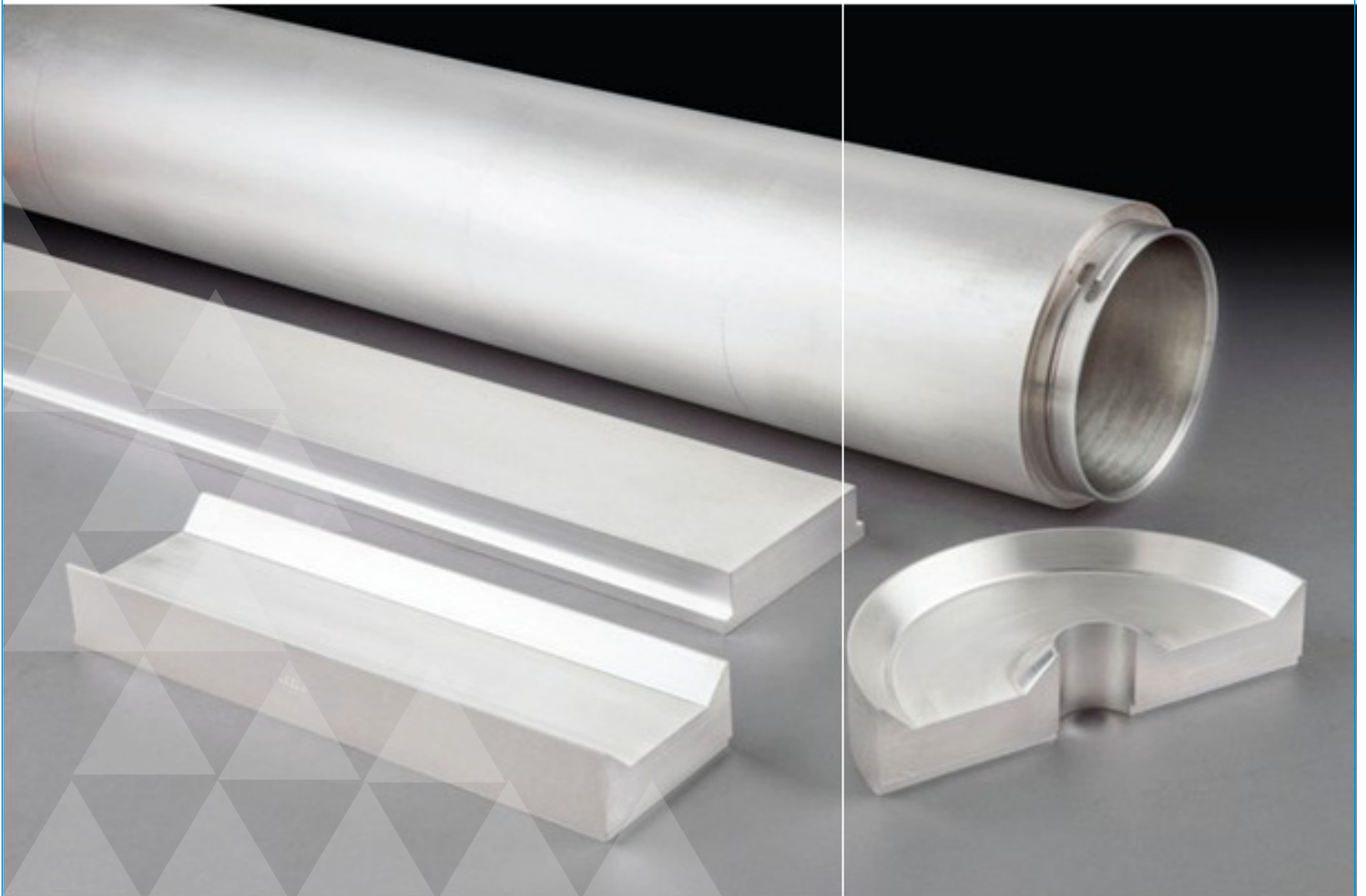




**MATERION**



**ADVANCED MATERIALS GROUP**

**Silver Targets  
For Large Area  
Glass Coating**

# Silver Targets for Large Area Glass Coating

Materion Advanced Materials Group is an industry leader in manufacturing quality products for thin film deposition markets and one of the largest suppliers of silver sputtering targets in the world. Our technical expertise allows Materion to produce superior silver targets that yield highly uniform thin films for a variety of applications.

## CAST TARGET FEATURES

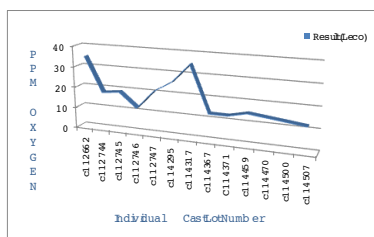
### High Purity

The use of high purity source material is key for the successful production of high quality thin films for low emissivity glass. State-of-the-art refining, manufacturing and analytical methods are used to produce and verify our target purities of 99.95% and 99.99%. Other purities are available upon request.

### Low Oxygen

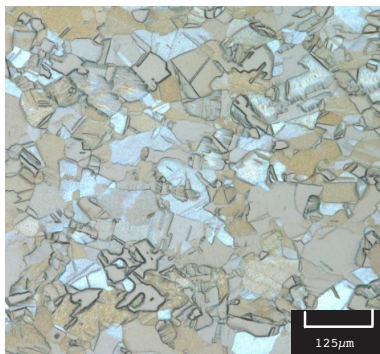
Our advanced refining techniques, precision casting and post-casting processes result in low oxygen target material, which in turn yield low oxygen thin films that exhibit higher reflectance.

While the industry standard is typically <100ppm, Materion's data supports a trend far lower (<50ppm).



### Fine Grain Size

Thin film uniformity is achieved by using targets with consistent small grain size. Grain size for Materion targets is typically <200 micron with averages around <55 microns.



## Monolithic Planar Targets

- Minimize cost of ownership
- Superior quality targets
- Variety of geometries
- Geometries available to: 152.00" x 11.00" x 1.30" thickness

## SPRAYED TARGET FEATURES

An alternative to the cast targets is thermally sprayed cylindrical silver targets.

Reasons to consider a sprayed rotary:

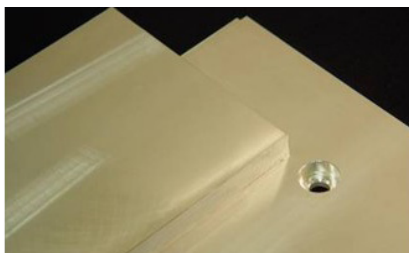
- Low cost of ownership compared to monolithic rotary
- Faster line speed than planar

### High Purity

Our sprayed targets are produced with the same high purity raw material as our cast targets with purities of 99.99% and 99.95%.

## Product Considerations

- Geometries to match OEM designs
- "Dogbone" geometries for longer life
- Reusable backing tubes of stainless steel or high conductivity aluminum alloys
- Sprayed or fully machined surfaces
- Varying geometries available depending on application
- Currently available to: 6.2" Outer Diameter x 153" Length



## BENEFITS

- Over 100 years of experience in precious metal refining and recycling
- Certified conflict-free
- Vertically integrated precious metal recovery and refining capabilities
- Reduced total cost of ownership of precious metal-bearing materials by combining our high purity products and support services
- Supplemental services including precious metal reclaim, precision parts cleaning, and precious metal management
- Full factory and product application support
- Globally positioned international corporation

## Material Specifications\*

Form Factor	Primary Governing Criteria
Planar Cast	<ul style="list-style-type: none"> <li>Grain size &lt;200 microns</li> <li>Oxygen &lt;100ppm</li> <li>Surface finish: 64 RMS</li> </ul>
Rotary Spray	<ul style="list-style-type: none"> <li>Oxygen &lt;550ppm</li> <li>Porosity &lt;12%</li> <li>Surface finish as sprayed or machined to order</li> </ul>

99.95% purity level, metallic impurities:  
 Bi - Max. 0.001%  
 Cu - Max. 0.040%  
 Fe - Max. 0.002%  
 Pb - Max. 0.015%

\* Custom specified requirements available

## ADVANCED MATERIALS GROUP

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