

Aluminate™ Sputter Targets Available 2023/'24

Silver, re-engineered.

The Aluminate sputter target is an upgrade to silver in low-e coatings. It's an alloyed silver target which surpasses the performance of conventional silver, enabling the production of thin films of silver with lower absorption, higher conductivity, and improved durability.

The Aluminate target is the nexus between silver nanostructure and enhanced material properties, where the alloying component engineers the morphology of silver during deposition, leading to an array of new options for designing low-e coatings.

COLLABORATION PROFILE: MIMSI Materials AB

MIMSI Materials is a Swedish deep tech startup redefining transparent thin films and coatings through the introduction of a new class of precision silver alloys.



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ALUMENATE™ SPUTTER TARGETS AT A GLANCE

The coated glass industry has long recognized that alloying silver improves the mechanical and chemical durability of low-e coatings. However, this compromises the optical and electrical performance of the coatings. The Aluminate target is the first industry-validated silver alloy sputter material that bridges the trade-off between durability and optical/electrical properties, enabling products differentiated through superior energy performance, improved aesthetics, and reduced embodied/operational carbon.

MATERION AND MIMSI: THE COLLABORATION ADVANTAGE

The collaboration between Materion and MIMSI Materials unites MIMSI Materials' unique material innovation with Materion's world-leading expertise in sputter target manufacturing. Together, we are the solution provider for next generation low-e coatings.



KEY BENEFITS OF ALUMENATE™ SPUTTER TARGETS

Aluminate sputter targets provide a range of benefits to differentiate your coated glass product offering.

Lower absorption*: Low-e coatings using the Aluminate target instead of silver have lower absorption, resulting in increased daylight transmission and new possibilities to control the color of the coating.

Improved durability*: Being an alloy, Aluminate targets provide your coating with inherently better mechanical and chemical durability without compromising any other performance metric of the coating.

Drop-in solution: The Aluminate target is applied through DC magnetron sputtering in industry-standard coating lines (off-line coated glass/soft coated glass).

Lower carbon footprint*: Through the potential to improve energy and material-use efficiency in the manufacturing of coated glass products, increased durability throughout the product's life and improved energy performance when installed, Aluminate targets lift the bar for high-performance coated glass while lowering its embodied and operational carbon footprint.

Target life cycle services available: Materion provides all the same front-end and back-end services for Aluminate targets that are provided for silver sputter targets today.

*Exact performance figures are dependent on the design/configuration of the coating stack.

APPLICATIONS

Aluminate sputter targets are suitable for DC magnetron sputtered low-e coating applications where higher conductivity, lower absorption and better durability than silver is needed.

MARKET SEGMENTS

- Architectural Glass
- Automotive Glass

