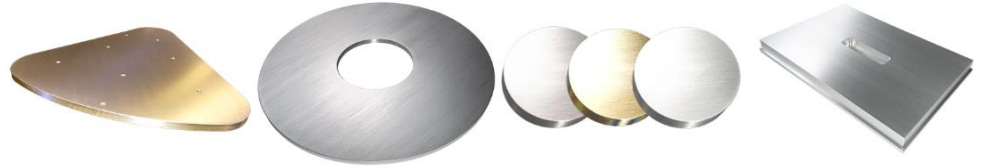


PRECIOUS METAL SPUTTERING TARGETS FOR ELECTRONICS, SEMICONDUCTOR, MEDICAL, AND OPTICAL COATINGS



Why Reliable?

Tell us what technical and commercial variables are most important for your company. Whether it be cost, metal management, grain structure, material purity, something else, or a combination thereof, Reliable is uniquely positioned to serve our customers with a product that best meets their needs not our convenience.

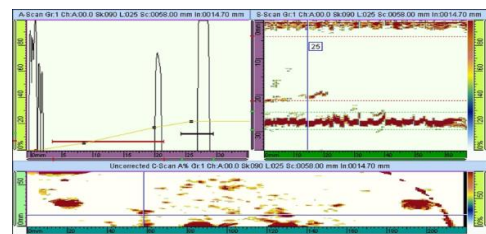
Technical Parameters

- **Purity:** Standard purities for Ag, Au, and Pt are 4N or 99.99%. For Pd, the standard purity is 3N5 or 99.95%. However, please inform us if you have a different requirement and let's discuss it.
- **Grain Structure:** Grain structure is a key attribute that can affect sputtered film uniformity and sputter rate. Small and uniform grains generally yield the best results. However, depending on your specific application, subtle differences may either go unnoticed or have negative impacts. Grain structure and particularly microstructure uniformity influences sputter rate. Thus, non-uniform grain structure can yield non-uniform deposition. Cost tradeoffs are often a key consideration and it's important to consider the right mix of variables for your application. Reliable employs various process options to achieve the right mix of tradeoffs according to our customers' requirements. For illustrative purposes, grain sizes from 13 to 150 micron are shown below.



Quality Control

- **Ultrasonic Analysis:** Ultrasonic c-scan mapping of targets is available to confirm the absence of voids and inclusions. This technique can also be used to verify proper bonding for process characterization.



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