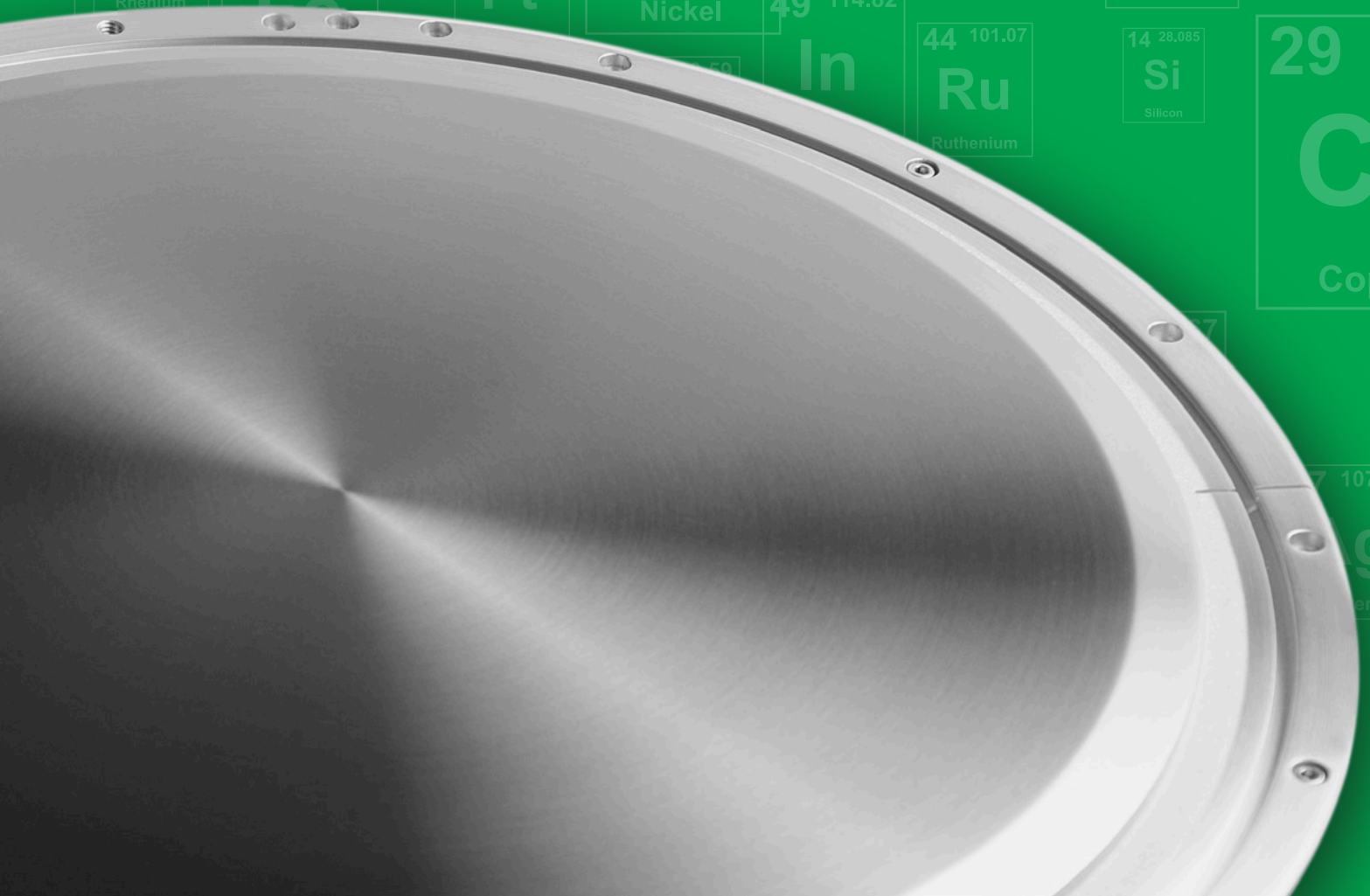




Vacuum Engineering & Materials

**VEM leads the way**  
in manufacturing  
sputtering targets and  
evaporation materials...



Vacuum Engineering & Materials is a leading supplier of high-purity, thin film deposition materials used in the semiconductor, wireless, photonics, LED, data storage, aerospace & defense and life sciences markets.

Headquartered in Silicon Valley with 25+ years of experience, VEM serves over 250 customers globally and has a track record for providing outstanding service and support.

**The most trusted supplier of high-quality PVD materials for over 25 years.**

From cutting edge R&D needs to large production requirements, VEM offers a full range of product and service solutions. Our product portfolio, ranging from high-purity PVD sputtering targets to evaporation materials, spans the periodic table and we have an experienced technical team developing innovative new products. VEM also provides precious metal reclamation, shield cleaning services and additional value-added solutions for each and every customer's unique requirements.

**High-purity sputtering targets** for all PVD systems. Available for round, rectangular, S-Gun, ConMag, Quantum, Delta, Ring and multi-tiled configurations in purities ranging from 99.9% to 99.9999%.

**Variety of high-quality elemental and composite evaporation materials** available by the gram, kilogram, troy ounce, pound, pellet and spool.

**Proprietary Ultra Pure Au Process** (UP Au™) increases yield and production uptime. Removes carbon and other contaminants, eliminating spitting.

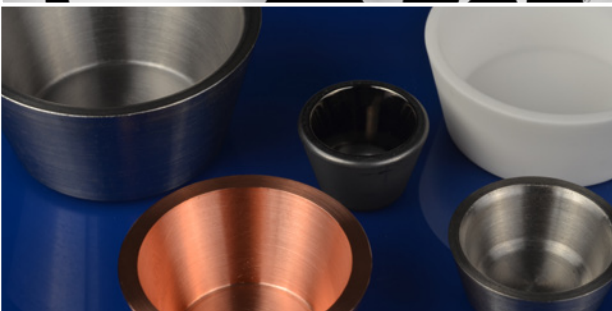
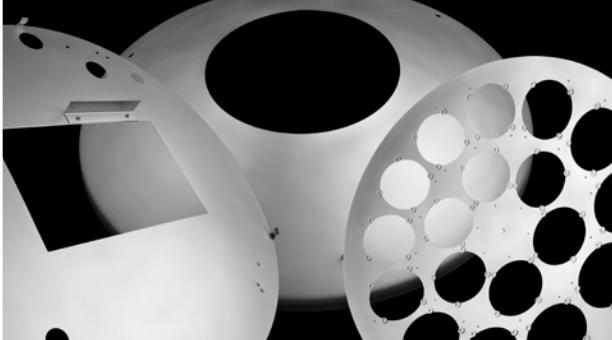
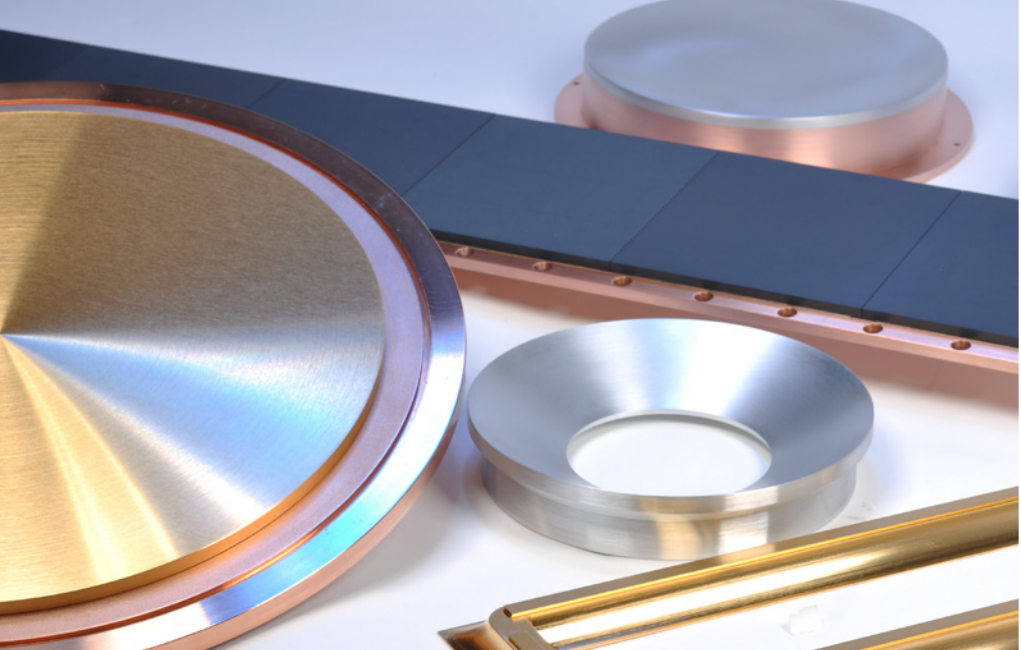
**Wide range of PVD consumables** including backing plates and crucible liners.

**Industry best settlement times** for pure metals, chamber scrapings, mixed metals and bead blasting materials.

**One-stop shield cleaning services** provide low cost, high-quality and on-time delivery. Includes shield cleaning, shield kit cleaning, class 1000 ultrasonic cleaning, final QC and clean room packaging. Clean room packaging enables direct installation into PVD vacuum chamber.

**Customized solutions** available for variety of alloys and combinations to meet unique customer specifications.





## Committed to Customer Success

At VEM, we focus our business towards our customers' success. We are proud to provide a level of customer service and support that is unmatched in the thin films industry. We value your business, and maintain long-lasting partnerships by staffing a responsive and knowledgeable support team.

## Key Products and Services

- Sputtering Targets
- Evaporation Materials
- Target Bonding
- Crucible Liners
- Backing Plates
- Reclaim Services
- Shield Cleaning



## State-of-the-art Manufacturing

VEM has extensive, in-house, state-of-the-art manufacturing capabilities to meet every material needed in the marketplace today.

- 250 ton, 2000°C Vacuum Hot Press for targets ranging from 50mm-450mm.
- Powder Lab with multiple blending tools including an Eirich Blender for quick homogenous material blends.
- Induction Melting Equipment, Process Logic Controlled, to ensure a repeatable process.
- Inductively Coupled Plasma (ICP-OES) System for material analysis.
- High-purity Indium Bonding capability used to adhere sputtering targets to backing plates.
- C-scan Ultrasound to ensure the integrity of targets and backing plates.
- ISO 9001:2008 certified and ITAR registered.





# VEM

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The most trusted supplier of high-quality  
PVD materials for over 25 years.

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