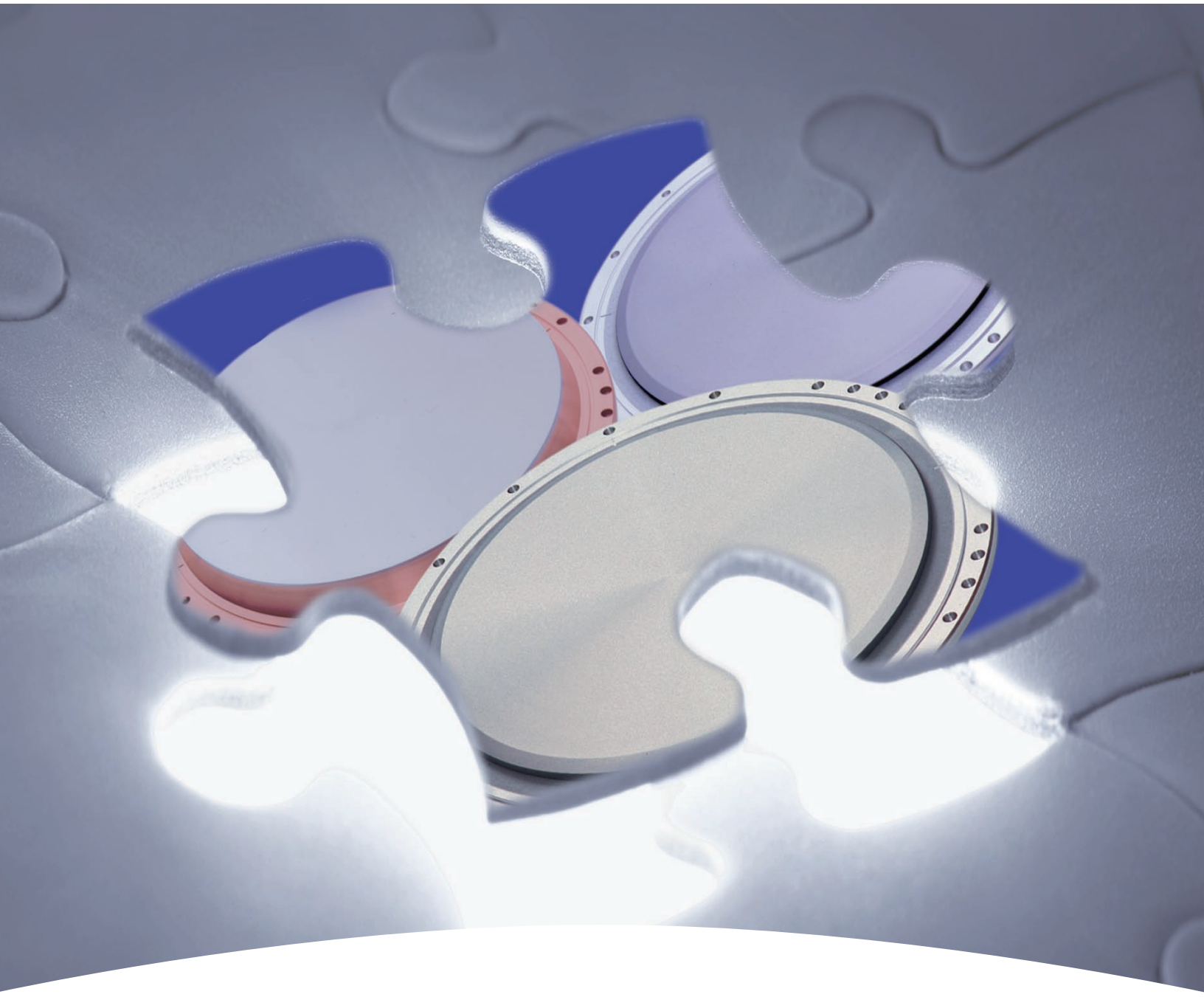
PVD Targets

Honeywell



Honeywell Copper Alloy Sputtering Targets

Honeywell Copper Alloy Sputtering Targets

LOWER PARTICLE GENERATION FOR HIGHER WAFER YIELDS

BENEFITS

- Increased wafer yields as a result of fewer thin film particles
- Reduced costs, and increased tool up-time, as a result of longer sputter life
- Complete roadmap alignment and reduced development time through our in-house custom alloy capability
- Experience with over 13 copper alloy systems including CuAl, CuMn, CuAg, CuSn, CuMg, CuIn and CuCo
- Optional ECAE® process sub-micron grain size improves uniformity, increases wafer yield and allows for monolithic designs for longer target life, greater tool utilization and lower costs

OVERVIEW

Through over thirty years of experience and extensive research, Honeywell Electronic Materials has developed casting processes which eliminate voids and particles in our copper alloy sputtering targets. The result is a target that generates fewer particles on the wafer, increases wafer yield and reduces wafer fabrication costs.

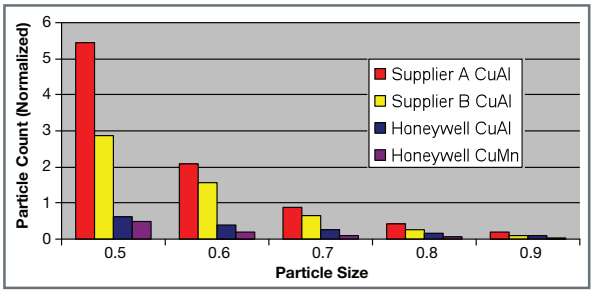
The patented* Honeywell ECAE® process takes our ultra high purity copper a step farther with sub-micron grain size for the highest uniformity possible.

FEATURES

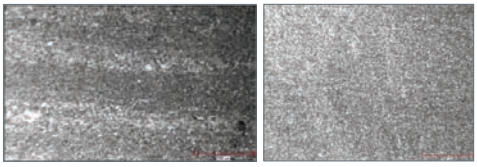
Standard Offering

- Honeywell's patent-pending metrology shows the significant particle reduction in Honeywell bulk copper alloys as compared to other available options

Particle Distribution in Bulk Cu Alloys



ECAE® Process Eliminates Banded Structure in Cu.5%Mn



Non-uniform, banded structure of typical CuMn

Non-banded, uniform structure of ECAE® CuMn (2.5 µm)

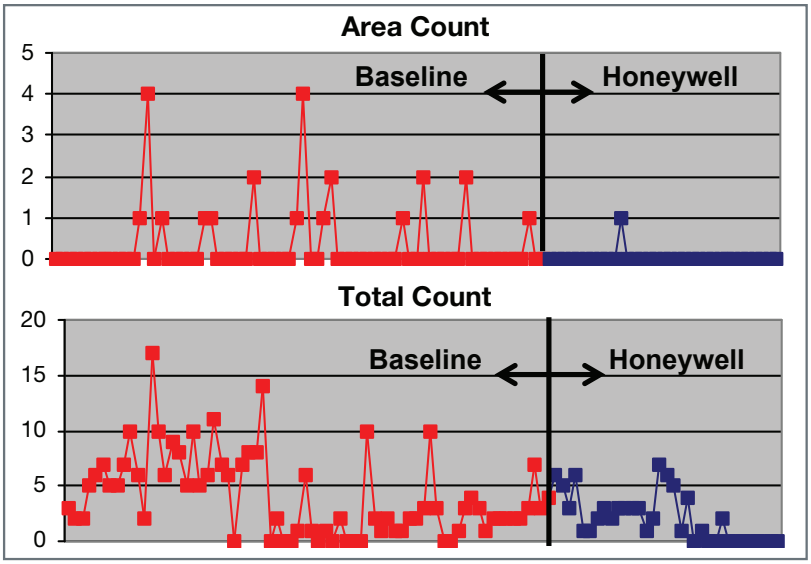
Patented ECAE® Fine Grain Size Option

- ECAE® Cu Alloys
- Submicron grain sizes allow for high strength long life monolithic target designs
- Very uniform microstructures. No banding.
- Elimination of large non-soluble second phase precipitates due to mechanical shearing

PERFORMANCE

- In-line wafer particle counts show a measurable reduction in particles when using Honeywell's CuAl target compared to the incumbent target

High-Purity Cu Alloy Target (Area/Total Count)



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