

**Honeywell Tantalum
Sputtering Targets**

Honeywell Tantalum Sputtering Targets

**PURE TANTALUM IN MOST
STANDARD CONFIGURATIONS**

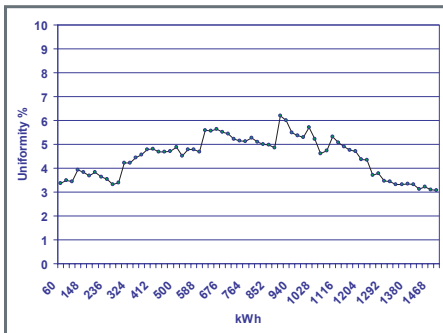


BENEFITS

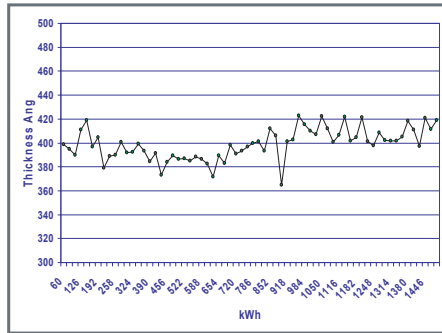
- Predominate uniform <111> texture through target thickness
- Absence of strong <100> texture banding
- Uniform grain size control through target thickness
- Purities ranging from 3N5 through 5N available
- Highest strength bonding technologies for 200mm and 300mm configurations
- Recycling program for reclaimed scrap targets

SIP PERFORMANCE CUSTOMER 1

Uniformity: RS_U%_1~Site 1

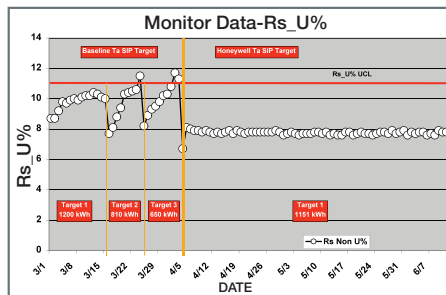


Thickness: TK1_AVG_1~Site 1



SIP PERFORMANCE CUSTOMER 2 KT Ta DB to Al Backing Plate

Monitor Data-Rs_U%



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OVERVIEW

Honeywell Electronic Materials' tantalum manufacturing process provides customers with stable film uniformity throughout target life, extending target lifetimes above existing Ta technologies while reducing defect densities. Honeywell's proven KT process performance provides low cost of ownership to the customer.

APPLICATIONS

Ta sputtering is used to form thin and conformal layers as diffusion barriers for Cu in the dual damascene process for 0.18µm processes and below. Ta and TaN film deposited by PVD and reactive PVD processes provide good barriers to prevent Cu diffusion in Si and SiO₂.

PERFORMANCE

KT Ta Sputter Performance

Texture banding/gradients through thickness can exist on a macro-scale and significantly affect target performance over lifetime. Note improved uniformity in KT product (SIP Performance Graphs).

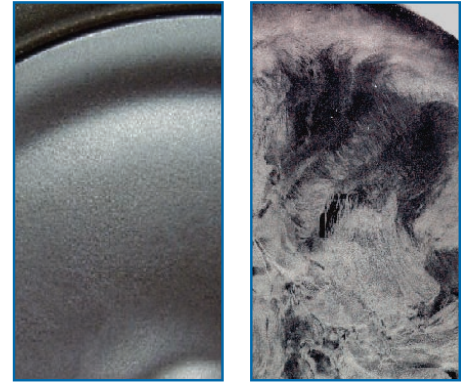
CONFIGURATIONS

- Anelva
- AMAT
- Novellus
- TEL
- Trikon
- ULVAC

(Most standard target configurations available)

FEATURES

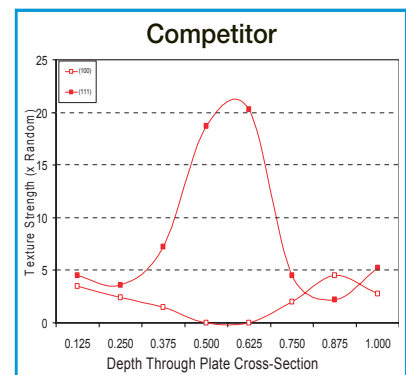
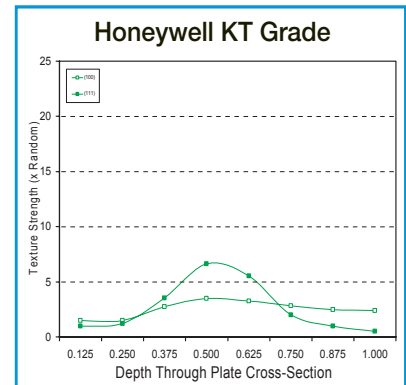
**KT Process Provides Stable
Microstructure through Target Life**



KT Ta Sputtered
Surface

Conventional Ta
Sputtered Surface

**Tantalum Texture Uniformity
Through Thickness**



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