Innovative Silicon & Metal Etch Solution

The WaferEtch® Platform

Lowest Cost of Ownership

> High throughput

> On-Board chemical mixing instead of expensive pre-mixed chemistry

> Increased savings with up to 99.5% chemical recapture

Excellent Process Control

> Integrated silicon thickness measurement and Profile Match Technology™

> Improved fine-feature etch process control with instant quench

> Arm movement compensation for radial wafer non-uniformities

Efficient Chemical Management

> Multiple chemistries possible in a single chamber

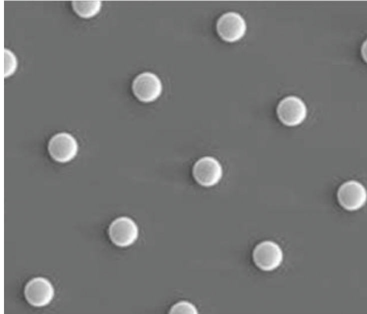
> No cross-contamination

Precision Surface Processing

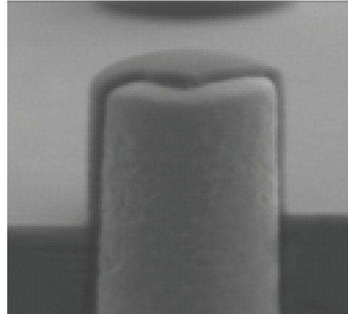
Veeco's single wafer wet etch technology enables uniform selective etching on multiple process levels, free of cross-contamination. Etch uniformity better than 1% is routine. Whether for advanced packaging or BEOL wet etches, WaterEtch systems accomplish the highest yield process at the lowest manufacturing cost. When etch structures or films are needed in the active, backside, and/or bevel areas, WaferEtch systems are a proven technical solution.

Unique TSV Reveal Process

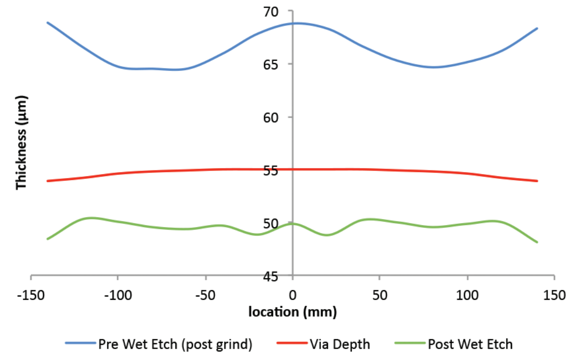
For low-cost TSV reveal processing, the WaferEtch tool is specifically configured to address wafer thinning to reveal the interconnects. This has become a critical step in the manufacture of 2.5D and 3D-IC packaging for process control and cost reduction. WaferEtch replaces four tools required for the dry-etch approach: CMP, plasma etch, silicon thickness measurement and wafer cleaning. Integration of a thickness measurement sensor and Veeco's Profile Match Technology provides closed-loop control of the wafer etching process. WaferEtch achieves a significant reduction in CoO, making 3D TSVs more economically feasible.



TOP VIEW AFTER TSVs REVEALED



SEM CROSS-SECTION AFTER TSVs REVEALED

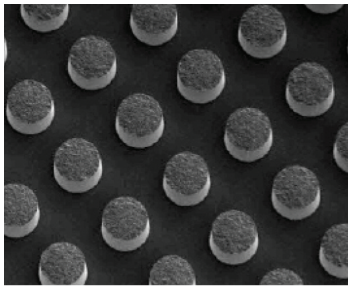


SILICON THICKNESS POST GRIND VS. POST WET ETCH, WITH TSV DEPTH DISPLAYED

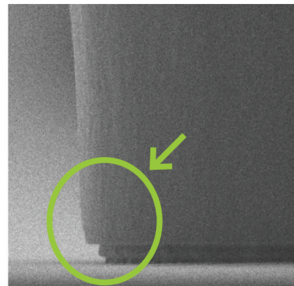
ETCH, WITH TSV DEPTH DISPLAYED

Additional Etch Processes, Ideal for WaferEtch

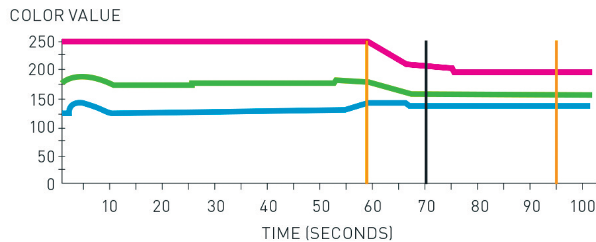
UBM/RDL Etch



TOP VIEW–AFTER UBM ETCH

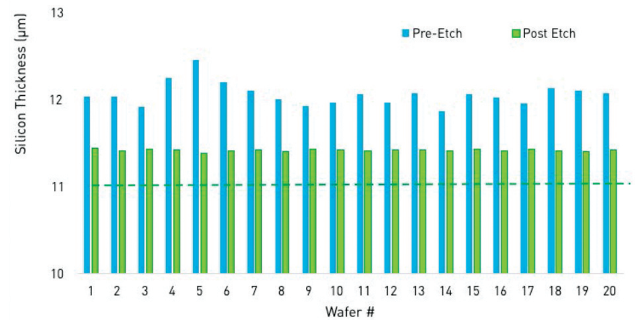


BUMP CROSS-SECTION

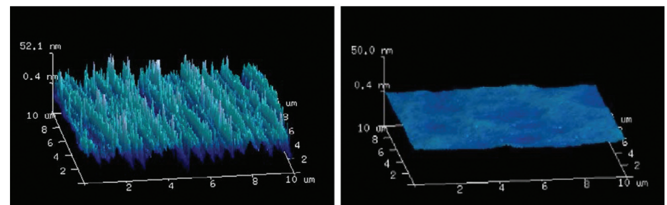


PROPRIETARY ENDPOINTING–UBM ETCH

Wafer Thinning and Stress Relief



HIGHLY REPEATABLE PROCESS



AFM IMAGES BEFORE AND AFTER WAFER THINNING–7X LOWER ROUGHNESS

Find out more at www.veeco.com
or call 1.888.24.VEECO

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Precision Surface Processing

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