



Wet Etching and Cleaning

Processes performed at Wet Etching and Cleaning

Techniques:

- Metal and dielectric wet (isotropic) etching.
- Surface cleaning.
- Photoresist stripping: oxygen plasma and wet stripping

Equipment:

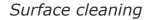
Metal and dielectric wet etching





- 9 baths and 6 DI water overflow rinse tanks for CMOS compatible wafers up to 150 mm.
- 7 baths and 2 DI water overflow rinse tanks for wafers with contaminant metals up to 150 mm.
- 2 Rinse and Dryer (R&D) devoted to CMOS compatible wafers of 100 mm and 1 R&D for 150 mm wafers.
- 1 R&D for wafers with contaminant metals of 100 mm and 1 R&D for 150mm.
- 2 ovens for drying and photoresist bakes for CMOS compatible wafers and 1 oven for drying and photoresist bakes for contaminant metal wafers.







- 5 baths and 2 DI water overflow rinse tanks for CMOS compatible wafers up to 150 mm.
- 2 baths and 1 DI water overflow rinse tanks for wafers with contaminant metals up to 150 mm.
- 2 R&D (one for CMOS compatible wafers and another for wafers with contaminant

metals) for 100 mm wafers.

- 2 R&D (one for CMOS compatible wafers and another for wafers with contaminant metals) for 150 mm wafers.
- A Sirius Semitool equipment for cleanings based on O3 and hot water spray for CMOS compatible wafers up to 150mm.

Wet and oxygen plasma photoresist stripping





- 1 double ultrasonic bath for solvents and 1 DI water overflow rinse tank for CMOS compatible wafers.
- 1 bath for wet photoresist stripping in acid and 1 DI water overflow rinse tank for CMOS compatible wafers.
- 2 baths for wet photoresist stripping for wafers with contaminant metals and 1 DI water overflow rinse tank for wafers with contaminant metals up to 150 mm.
- PVA Tepla 300SA plasma asher for photoresist stripping with oxygen plasma for CMOS compatible wafers.



 Tepla GIGABatch 360M plasma asher for photoresist stripping with oxygen plasma for wafers with contaminant metals up to 150mm.

Processes:

Ething and stripping of dielectrics

- Etching and stripping of SiO₂ in HF mixtures of different concentrations.
- Isotropic etching of silicon and polysilicon based on mixtures of HNO₃ y HF.
- Etching of Si₃N₄ in H₃PO₄.
- Thin film etching of TiO₂ and HfO₂ in HF mixtures.
- Thin film etching of Al₂O₃ based on mixtures of HNO₃ and H₃PO₄.

Etching of metals

- Al etching based on mixtures of HNO₃ and H₃PO₄.
- Au etching based on mixtures of I₂.
- Ni etchina in HNO₃.
- Ti etching based on mixtures of propilenglycol and HF

Surface cleanings

Cleaning of organics, particles and remaining traces of metallic (ionic) contaminants in:

- Piranha mixture, oxide stripping and RCA cleaning.
- Cleanings with solvents (acetone and isopropanol).
- O₃ and hot water spray based cleaning.

Wet and oxygen plasma photoresist stripping:

- Photoresist stripping in acetone.
- Photoresist stripping in acid.
- Photoresist stripping in stripper (basic mixture).
- Photoresist stripping in oxygen plasma.





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