

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.

Surface cleaning



- 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:

Etching and stripping of dielectrics

- Etching and stripping of SiO_2 in HF mixtures of different concentrations.
- Isotropic etching of silicon and polysilicon based on mixtures of HNO_3 y HF.
- Etching of Si_3N_4 in H_3PO_4 .
- Thin film etching of TiO_2 and HfO_2 in HF mixtures.
- Thin film etching of Al_2O_3 based on mixtures of HNO_3 and H_3PO_4 .

Etching of metals

- Al etching based on mixtures of HNO_3 and H_3PO_4 .
- Au etching based on mixtures of I_2 .
- Ni etching in HNO_3 .
- 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).
- O_3 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.

Staff:

- Nuria Torres (ext. 435568)
- Elena Chica
- Andrea Azambuja