Fumehoods







DESCRIPTION

Fumehoods located in the labs of ISO 5 cleaness are specially designed for litographic and wet etching purposes. We have two fumehoods made of stainless steel for work with organic solvents and six fumehoods which are used for work with corrosive liquids (acids/bases for etching and development). These are made of polypropylene (PP). Three of these PP fumehoods can only be used for clean processes of at least MOS grade. This involves use of special clean chemicals and only specific plastic labware. For example, one fumehood is reserved for RCA wafer cleaning process.

Generally each fumehood contains set of process baths with specific functions (heating, ultrasound agitation, etc.). When used in combination with dynamic rinsing, one is able to utilize complete and accurate wet process for bundle of substrates. Still, there is enough room to work easily with just small samples. Functions of the fumehood are conveniently controlled by the user software accessible by the touchscreen.

With the help of this wet process unit we can put the substrate through complete nanofabrication process – from pre-cleaning, followed by litography, then deposition/etching/doping, ending with final substrate cleaning.

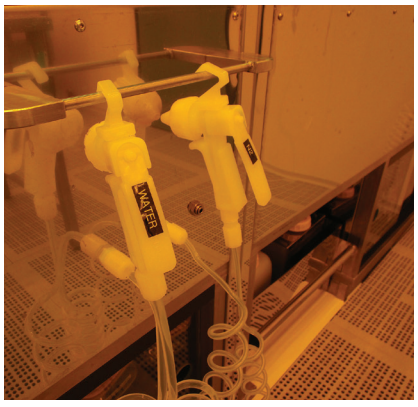
PRINCIPLE

Resist is a cover material which protects parts of substrate that won't be attacked by aggressive etching agents. These are mostly corrosive/dangerous liquids, including hydrofluoric acid, TMAH, or perchloric acid. Often etching mixtures are used to provide more controllable etching process. This means better selectivity, or slower etching. Wet etching is in most cases isotropic – etches with the same speed in all directions. Exception might be KOH etching of silicon, which is anisotropic – different etching speed along different crystal planes. Wet etching might be superior to more modern plasma dry etching in cases when we want to work with more substrates at same time.

FEATURES

- Specific process baths for various etching & cleaning processes
- Built-in ultrasound & megasound agitation available
- Heating, cooling function
- Dynamic rinsing function
- Water shower & nitrogen gun for quick drying
- Built-in canisters for handling hazardous chemical waste
- Intuitive user friendly software





MORE INFO

Guarantor: Erik Pálesch (erik.palesch@ceitec.vutbr.cz)
Web: http://nano.ceitec.cz