

Photoresist stripping

Reliable and economic removal of resist layers



The system V10-G is designed for resist stripping of small batches.

Resist stripping

During the manufacture of microelectronic devices, removal of photoresist layers very often is an inevitable process step.

By isotropic strip processes with plasma, such removal of organic layers is possible without any plasma damage.

As an experienced provider of low-pressure plasma systems for surface treatment, PINK also offers customized plasma systems for resist removal.

Powerful process

Usually oxygen or an oxygen mixture is used as process gas. Working pressure is approx. 10 to 100 Pa. Depending on system type, loading and resist type, stripping rates up to 300 nm/min could be achieved. Also, epoxy based resists with film thicknesses up to 1000 µm could be removed with moderate etch rates.

Process control can provide for slow temperature rise of the substrate, which is an advantage removing heavily crosslinked photoresists, particularly after implant or RIE processes. Using the microwave plasma system V10-G from PINK, such resists normally can be stripped without the appearance of "popping effects".

Properties

- Isotropic strip process
- High etching rates
- Low popping effects
- No plasma damage

Systems engineering

PINK utilizes the very well proven microwave plasma technology (2.45 GHz) for its photoresist strippers, yielding a high degree of ionization and a concurrent low sputter rate. Major benefits are effective and gentle processes with shorter process times compared to lower excitation frequencies.

Fields of application

- Photoresist stripping
- SU-8 removal
- Removal of highly crosslinked resists, e.g. after high dose implant or RIE-etching
- Removal of organic sacrificial layers
- Creating hydrophilic surfaces prior to wet chemical processes
- Wafer cleaning after BOSCH processes

Conclusion

Resist removal with plasma systems from PINK is a very efficient and environmentally friendly alternative compared to wet chemical stripping methods.

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The microwave plasma system V10-G is available as stand-alone unit or tabletop system (fig.).