

Buffered Oxide Etchant Chemical Bench

Operating Procedures [LINK](#)



Process Description:

Silicon dioxide has many uses as an insulator in microfabrication processing. Silicon dioxide can be in crystalline or vitreous forms. Once the substrate has a layer SiO₂ it is necessary to remove (etch) areas away create a pattern in surface. Various methods of etching include: wet chemical, electrochemical, plasma etching, reactive ion etching, ion beam milling, sputtering and vapor etching. Buffered oxide etchant is a wet chemical method that consists of a diluted hydrofluoric acid solution buffered with ammonia fluoride. This buffered solution provides a stable etch process.

Equipment Description:

The BOE chemical bench has two process tanks prepared with 6:1 and 15:1 solutions. The bench is equipped with two wafer holders and one holder for wafer pieces, one cascade rinse tank, a hotplate and sink. The process tanks have filtration systems and timers.

<i>Materials Allowed</i>		<i>Materials Not Allowed</i>
Silicon		Glass
Silicon dioxide		III-V semiconductors
Silicon nitride		Metals
Quartz		
Photoresists		