

Development of first wafer cleaning equipment with bevel cleaning technology for semiconductor manufacturing industry

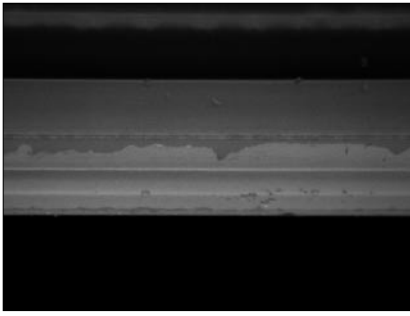
New cleaning technology requires no wafer polishing, reduces costs, and increases productivity

The Semiconductor Equipment Company (President: Takashige Suetake) of Dainippon Screen Mfg. Co., Ltd. (Headquarters: Kyoto, Japan) has just developed technology that makes it possible to clean the bevel portion of wafers, for the first time in the semiconductor manufacturing industry. SCREEN will commence sales of the SS-3000BC, single-wafer cleaning equipment featuring this new technology, in October 2006.

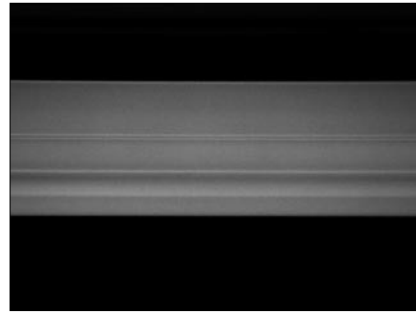
In recent years, as the circuitry used in semiconductor devices has become ever finer, there has been increased concern about drops in yield caused by the adherence and scattering of chemical residue from semiconductor manufacturing processes such as film deposition, etching, and CMP. In particular, concern has been expressed about the impact of the contaminants that attach to the bevel portion of the wafer (the wafer edges and the slanted areas immediately adjacent) during these processes, especially since these contaminants can affect the pattern on the surface of the wafer. What's more, as immersion exposure processing becomes more common and wafer patterns expand to areas abutting the bevel, the demand for cleaning technology suitable for the manufacturing of next generation devices will increase.

The bevel cleaning technology in the soon to be released SS-3000BC is a refinement of technology already used in over 1,000 units of SCREEN wafer cleaning equipment, and has been successfully tested by actual device manufacturers. The technology features high-precision driving and control of cleaning brushes, and enables the removal of contaminants to a degree that has not been easy to attain with chemical cleaning. This new cleaning technology also prevents lots from being spoiled by contamination of bevel areas, and using this technology for cleaning before batch processing increases yields as well. The width of the cleaning area is easy to adjust, so this new technology is suitable even in cases where the bevel area is outside the standard range, and helps reduce pattern damage during cleaning. Since this new kind of cleaning removes contamination without requiring wafer polishing, it both reduces costs and increases productivity. It requires no chemical solvents, and uses DI water only, so it is also environmentally friendly.

SCREEN will be setting the standard for the bevel cleaning market, which is expected to grow at least 20% per year in the future, with the SS-3000BC. This new equipment will also increase SCREEN's competitiveness in the wafer cleaning industry, where it is already the number one manufacturer in the world.



Wafer bevel area before cleaning



Wafer bevel area after cleaning

Please download the photo from
<http://www.screen.co.jp/press/nr-photo/indexE.html>

Date sales are expected to commence:

October 1, 2006

Suggested retail price in Japan (before tax):

120 million to 170 million yen (depending on exact specifications)

Expected sales (2006):

10 units