

## Excellence Award in 2002 Nikkei Outstanding Products and Services Awards Nikkei Business Daily Award

### Cleaning Wafer® for Semiconductor Manufacturing Equipment

#### == Date of Award ==

February 3, 2003

#### == Features of Award ==

This award is presented once a year to an especially outstanding new product or service from among the new products and services announced during that particular financial year. In FY2002, a total of thirty prizewinners were selected from among approximately 20,000 entries.

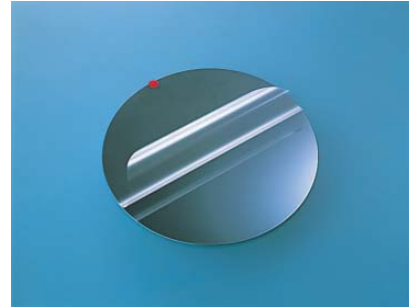
#### == Reason for Award and Product Outline ==

The cleaning wafer is a semiconductor wafer-shaped extraneous particle remover consisting of a silicon wafer laminated on one side with a special tape.

Removing particles from within semiconductor manufacturing equipment is a difficult task. The equipment must be stopped, opened and wiped down with alcohol by hand using a special dust-free cloth. This, of course, takes time and results in reduced production efficiency. On the other hand, if cleaning is neglected, product yield deteriorates.

Features of the cleaning wafer include the fact that it can be used without stopping or opening the manufacturing equipment and is able to remove particles from the wafer handling robot and chuck table without anyone having to actually reach inside the equipment. It also means that there is no contamination of the equipment on the semiconductor level.

The specially developed resin has a low degree of elasticity and is not sticky to the touch and customers who



Cleaning Wafer®

are expecting the coating to be something like that of adhesive tape are surprised when they actually touch it for the first time. This is to ensure that there is no danger of it sticking to the wafer handling robot or chuck table, which it would even with only the slightest degree of adhesion, and to ensure that there can be no transfer of contamination from the wafer to the equipment even if it does not stick.

Not only is the cleaning wafer the first of its kind in the world, but it is also the first Nitto Denko tape-related product to utilize the recycling-oriented business system. Cleaning wafers that have been used by customers are collected, the dummy wafer and the adhesive sheet separated, and the dummy wafer reused after cleaning.

The functionality, ease of use and the innovative nature of this product were the reasons why it was selected to receive this award.

\* Cleaning Wafer® is a registered trademark of Nitto Denko.

