

Japan DIY Homecenter Show 2009

Minister of Economy, Trade and Industry Award DIY New Product and Hit Product Competition (New Products Category) Peelable Double-Sided Adhesive Sheets for Wallpaper Use

Date of Award August 29, 2009

Recipients Nitoms Inc.

Outline of Award Products eligible for this award are “DIY-related products for general consumers that help to enhance the homes and living experience of consumers” produced by companies with displays at the Japan DIY Homecenter Show 2009 and that were placed on the market after September 2008. Initial judging was carried out at a presentation to the Japan DIY Industry Association, the major sponsor of the event, prior to the opening of the exhibition, with the top 21 products then being judged to select the recipients of the awards by a panel of industry experts headed by the Minister of Economy, Trade and Industry Award.



▶ Reasons for Award and Features

The following was ascertained by means of a consumer monitoring survey.

- ① The second most common use of double-sided tape in the home after wrapping and scrapbooking was for securing items such as posters and calendars to walls.
- ② Even so, there was only a low tendency to use double-sided tape as it damages the wall surface when removed or leaves traces of adhesive, meaning that drawing pins are most commonly used for this purpose.
- ③ Many people are unhappy that draw-

ing pins leave holes in the wall when removed.

We therefore set out to develop double-sided tape that can be used with easily damaged PVC wall coverings, which are the most commonly used wall coverings in the home.

Bearing in mind consumer demands for tape that is made using no organic solvents and that does not leave any traces behind when removed, we investigated adhesives that can be removed using water. More specifically, we focused on the possibility of making an adhesive based on swelling due to water absorption using pressure-sensitive adhesive composition, technology that was already in the public domain*. As a result, we

were able to achieve both the required adhesive characteristics and peelability based on swelling caused by water.

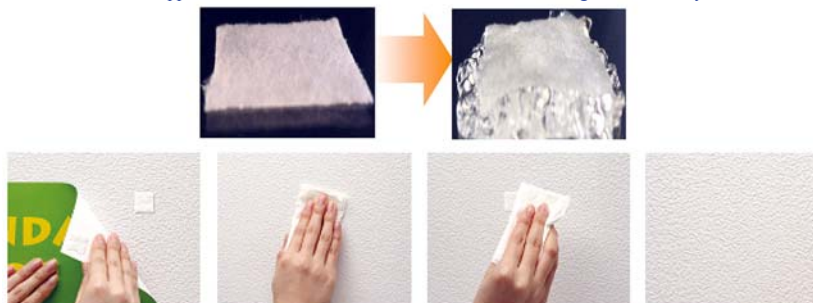
For sheet materials, we maximized the water-induced swelling function and considered a material where damage occurs between base material layers in order to ensure that the surface of the wallpaper is not damaged when the sheet is removed. Furthermore, by making the base material thick enough to allow better adhesion to the wallpaper we made it possible for the sheet to secure the attached item firmly to the textured surface of the wallpaper.

It is thought that the reasons this peelable double-sided adhesive sheet for wallpaper use received the award were that until now there was no double-sided tape that could be used that did not damage the surface of wallpaper, and that consumers could observe the process whereby the adhesive swelled and then peels after water is applied.

The name MIZUTOREK®, which is derived from “mizu” (water) and “toreru” (to be removed, to peel) in Japanese, is a registered trademark of Nitoms, Inc. (Patent obtained on September 11, 2009).

* Patent No. Heisei 7-173445 Pressure-sensitive adhesive compounds that swell when they come into contact with water.

When water is applied to the sheet material the adhesive swells allowing it to be cleanly removed.



The item is slowly removed leaving the tape on both the item and the wall.

A tissue soaked in water and then lightly squeezed out is applied to the remains of the adhesive sheet for about 10 seconds.

The tissue is removed and the adhesive sheet left for about 10 seconds during which time the adhesive swells to become like jelly. The remains of the adhesive sheet are then gently removed using a dry tissue.

The adhesive sheet can be cleanly removed.

Application example (procedures for clean removal)