

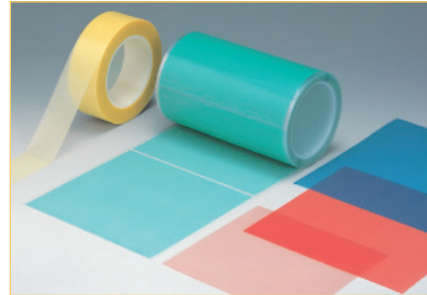
FY2007 (29th) Adhesion Society of Japan

Technology Award Development of REVALPHA[®] Thermal Release Sheet

Date of Award June 28, 2007

Recipients ARIMITSU Yukio SHIMOKAWA Daisuke
MURATA Akihisa KISHIMOTO Tomoko

Outline of Award The Adhesion Society of Japan's Technology Award is awarded to products from enterprises that have made a major contribution to adhesion technology or have contributed to its popularization in society.



▶ Reasons for Award

The award was presented in recognition of the development of REVALPHA[®], the first tape in the world that when necessary can stick like normal adhesive tape and can then by exposing it to heat, which decreases its adhesion, be naturally removed (requiring the use of no external force and easily separating from the surface of the adherend). Furthermore, the use of this function has helped to improve production efficiency in the ceramic component manufacturing process by increasing processing accuracy, reducing the number of workers required and improving yield.

▶ Features of Award-winning Product

Heating REVALPHA[®] causes the foaming agent within the adhesive to expand, producing minute undulations in the surface of the adhesive layer. This causes the strong bond that has formed between the adhesive tape and the surface of the adherend to be weakened by dramatically reducing the surface area in contact with the substrate,

meaning that adhesion is weakened in a very short period of time to the point that the product will not re-adhere to the substrate. As a result, adhesion is reduced to nearly zero, which makes a natural release possible.

In the past, wax, adhesive, adhesive sheets and porous materials (paper, etc.) have been used to temporarily secure work, such as ceramic components and semiconductor wafers, in electronic component manufacturing processes. Although wax, adhesive, and adhesive sheets are all outstanding in terms of their ability to secure work, after processing they are hard to remove. On the other hand, with adsorptive immobilization work is easy to remove, but is not really held properly in the first place. This illustrates the many problems inherent in the electronic component manufactur-

ing process in terms of processing accuracy, reliability, workability, and environmental considerations. It is no wonder that component manufacturers came to us with requests for a “dream tape” that would hold work securely and then easily release it. Realizing their plight, and after much serious consideration, we succeeded in developing REVALPHA[®], the world's first adhesive tape with a natural release function.

Now, REVALPHA[®] with its unique natural release function is the main product used throughout the electronic component manufacturing industry for temporarily securing small, thin or fragile items for processing and the increase in productivity from shortened release times and improved yield has made REVALPHA[®] an indispensable item for many of our clients.

SEM image of the surface of REVALPHA[®]

