Production & sale of “NIKRAM®” an electromagnetic wave absorption sheet for electronic circuit boards

Nikkan Industries Co., Ltd. (Meguro Ward, Tokyo, Representative: Yoshio Moroi) and Komatsu Seiren Co., Ltd. (Nomi City, Ishikawa Prefecture, Representative: Tetsuo Ikeda) have jointly developed “NIKRAM®”, an electromagnetic wave absorption sheet with heat resistant properties. Sample work is currently underway using a prototype of the product with full-scale production and sales expected to begin in July 2011.

“NIKRAM®” comprises an insulation film, electromagnetic wave absorption layer and release paper (Figure 1.). Komatsu Seiren, a company with a long history in the development and sale of a variety of electromagnetic wave absorption materials is spearheading the production of the electromagnetic wave absorption layer while the hybrid processing with the insulation film will be led by Nikkan Industries, a company with extensive experience in the development and sale of materials for flexible printed circuit boards. Sales of the product will be handled by Nikkan Industries.

Measures to combat electromagnetic waves from electronic equipment, typically mobile phones and PCs, can be categorized into electromagnetic shield materials, which reflect emitted electromagnetic waves away to a ground circuit, or earth, and electromagnetic wave absorption sheets, which absorb the waves (Figure 2.) and convert them to heat. “NIKRAM®” is classed under the latter. Conventional electromagnetic wave absorption sheets worked effectively by simply attaching them locally and as a result, were generally used after the mounting of components in electrical devices.

Nikkan Industries together with Komatsu Seiren have drawn on their expertise in plastic composition and processing technologies and succeeded in developing “NIKRAM®”, an electromagnetic wave absorption sheet with heat resistant properties. “NIKRAM®” can be used in the same way as conventional absorption materials but can also tolerate the heat required to mount parts on printed circuit boards. It can also be used as a counter measure against electrical noise from printed boards, electronic components and electronic wiring etc. (Figure 3.)

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*“NIKRAM®” is a registered trademark of Nikkan Industries
Figure 2. "NIKRAM™ S21 Parameter Electromagnetic Wave Absorption"

- **Frequency [GHz]**
- **Absorption Capacity [dB]**

- **Figure 3. Applications**
  - Suppression of noise from FPC, FFC and circuit boards
  - Prevention of spurious radiation from HDD and projectors
  - Attach directly to areas emitting noise on the chip
  - Attach to FPC using adhesive tape or press casting
  - Wrap around cables
  - Notebook PC
  - Mobile Phone
  - Electronic Circuit Board
  - Cable