

Development of the technology of recycling airbag scraps and launch of a business project

UNITIKA, Ltd. (President: Kenji Yasue, Head Office: Chuo-ku, Osaka; hereinafter referred to as "Unitika",) jointly with Tokokosen Corp. (President: Ryoza Kawano, Head Office: Chiyoda-ku, Tokyo), has developed a technology to recycle scraps of foundation cloth generated in manufacturing of automobile airbags, and launched a project to propose application of this technology for car parts.

Types of foundation cloth used for airbags include the plain fabric, which is made simply from Nylon 66, and the composite fabric, which is made by coating silicone on the surface of nylon fabric, used selectively for different portions of airbags. While recycling of plain fabric is already in practical use, few efforts have been made to enable recycling of composite fabric as it was considered extremely difficult.

The new technology we have developed has made recycling of composite fabric possible by separating the fabric with high accuracy into the nylon portion and the silicone portion. Although studies have been made on various methods to recycle composite fabric worldwide, none have reported development of a technology capable of separating the nylon and silicone portions with accuracy as high as that of our technology (with an impurity rate of less than 1%).

The separated nylon portion is first processed into pellets, which we plan to supply as materials for injection molding after adding to them functions that satisfy customer requests using Unitika's proprietary composite technology. The silicone portion is expected to be used as a shock absorbing material after

undergoing thermal pressing.

The two companies have already established a plant with production capacity of 200 tons a year in Thailand, utilizing the facilities they separately own, and have started providing sample products to some customers. If the products receive favorable feedback from customers, we plan to increase the production capacity to 600 tons a year by the end of 2011. The composite fabric scraps to be used as raw materials will be procured not only from inside Thailand but also from Vietnam.

As the need to establish a resources recycling network is increasingly recognized, this recycling project encourages introduction of recycled resin materials for use in automobile parts, etc. through collaboration among suppliers inside and outside of Japan. We believe this project will help reduce material loss to almost zero and establish a model of an international environment-friendly resources recycling network that pursues maximization of resources productivity.

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**Separated
silicone film**



Re-pelletized Nylon 66 resin