

Toyobo develops Lesire™, the industry's first Laser-Printable Film*
Designed to shorten printing procedures and enhance recyclability of labels to contribute to realizing a circular economy

Toyobo Co., Ltd. has developed Lesire™, the industry's first film* for exterior labels for food and cosmetic products compatible with laser printers. The company started providing samples in early December 2021 and plans to start full-scale rollout of the product in fiscal 2022.



Laser-printable film Lesire™ (left, transparent type; right, milky-white type)

Against the backdrop of increasing global environmental awareness, demand for eco-friendly packaging films is on the rise. The main type of film that currently serves as a substrate for exterior labels for food and cosmetic products requires two steps: 1) printing with jet printers and coating treatment and 2) printing characters and designs with thermal printers. But labels using this type of film have a shortcoming in that they can be recycled only after ink and coating agents are washed off.

Lesire™, on the other hand, is the industry's first film* for exterior labels directly printable with the use of general-purpose laser printers. Toyobo has combined film-designing technology, which has been developed over many years, with our unique technology to control molecular structures. This has led to the development of our film on which letters and designs can be laser-printed clearly. Since ink replenishment and coating treatment are unnecessary, the production process can be shortened. Also, since printing is done inside the film by laser, it is effective in preventing missing or incomplete printing of letters, as well as tampering by other parties. Moreover, not requiring a process that washes off ink and coating agents from films for recycling will enhance recyclability and resource saving.

Toyobo will first provide our clients and prospective customers with two types of samples, using both polypropylene and polyester as substrates. We will then develop products using different materials and/or for products other than for use in exterior labels, in accordance with clients' requirements.

Toyobo offers a lineup of recyclable and eco-friendly film products by providing products to help its clients make their finished products mono-material. Those products include Olyester™, a polyester film used as a sealant, and biaxially oriented polypropylene DP065, which has a high barrier performance. Adding Lesire™ to its product lineup, Toyobo will respond to clients' wide range of requirements and thus contribute to realizing a circular economy.

** According to Toyobo's study of substrate films for exterior labels as of December 20, 2021*



Ideas & Chemistry

Laser Printable film Lesire™ features:

Materials: Polypropylene, Polyester

Thickness: 20-50 μm

Potential applications: Labels (Displays of best-by/expire date, ingredients and production lot numbers) and exterior packaging of cosmetic items (hot-stamping)

Compatible types of laser: YAG, UV and fiber laser (excluding CO₂ laser)

Font size: printable font sizes all the way down to a miniscule 0.08 mm square.

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