



**Nittobo**

## News Release

January 10, 2024

Nittobo

### Nittobo Advantex, in Collaboration with Bioworks, Announces the Development of the Industry's First "Biodegradable Double Dot" Adhesive Interlining, Advancing Closed-Loop in the Fashion Industry

Nittobo Advantex Co., Ltd. (Headquarters: Itami-shi, Hyogo, hereinafter "Nittobo Advantex"), a wholly owned subsidiary of Nittobo, in collaboration with Bioworks Co., Ltd. (Headquarters: Soraku-gun, Kyoto, hereinafter "Bioworks"), has jointly developed the industry's first "biodegradable double dot" adhesive interlining.

#### **Background of the Development of "Biodegradable Double Dot" Adhesive Interlining**

As sustainability becomes a growing concern in the fashion industry, there has been a development of materials with biodegradability or compostability, primarily focused on outer fabrics. However, there have been limited examples of such developments in the field of adhesive interlinings. Adhesive interlinings are used in various parts of clothing, making the development of sustainable interlinings crucial for composting clothing and establishing a closed-loop system with PLA (polylactic acid).

Nittobo Advantex and Bioworks have been collaborating on the development of various biodegradable garments since 2022, and have now developed a "biodegradable double dot" adhesive interlining using a fabric made with "PlaX™" and an adhesive made with PLA.

"PlaX™" hydrolyzes under industrial composting conditions and eventually decomposes into water and carbon dioxide. The realization of the "biodegradable double dot" adhesive interlining makes it possible to compost clothing using adhesive interlining, which was difficult until now, and the fact that it is a double dot interlining makes it possible to expand to a wide range of clothing. This is expected to contribute to the realization of a circular society as a pioneering step in promoting the closed-loop in the fashion industry. Nittobo Advantex and Bioworks plan to develop a "biodegradable" adhesive interlining of filament in 2024. We will continue to pursue further collaborative research and development, focusing on the creation of sustainable auxiliary materials that take into consideration the environmental impact.

#### **Comment from Yukihiro Imai, Representative Director of Bioworks**

Bioworks aims to achieve a sustainable society through the development of materials that contribute to reducing environmental impact based on polylactic acid. This time, we have succeeded in developing a biodegradable adhesive interlining through joint development with Nittobo Advantex for our focused textile applications. The adhesive interlining born from the joint development not only reduces the environmental

load compared to conventional products, but also adopts a versatile double dot interlining with excellent adhesiveness, so it is expected to be used in more clothing. The development of "biodegradable" adhesive interlining will contribute to improving the recycling process in the fashion industry and help solve the waste problem. Bioworks will continue to work towards the realization of a sustainable society through further technological innovation and collaboration with partner companies.

### **About PlaX™**

"PlaX™" is a novel carbon neutral material with improved quality and function, comprised of bioplastic Polylactic Acid (PLA), a plant-derived material such as sugarcane, and additives exclusively developed by Bioworks. It has attracted international attention as a new material which can, not only replace petroleum-based synthetic fibers such as polyester, but also be used to actively develop new applications.

#### 《Features of PlaX™》

- Reduces CO<sub>2</sub> emissions during yarn production by 41% compared to polyester.
- Has biodegradability that is decomposed into water and CO<sub>2</sub> by microorganisms.
- Research and development towards achieving a closed-loop system that circulates resources is progressing, particularly in compatibility with chemical recycling, which involves reproducing equivalent materials from waste.
- Significantly reduces CO<sub>2</sub> emissions during incineration disposal. It does not produce harmful substances such as dioxins.

### **About Nittobo Advantex**

Nittobo Advantex takes pride in its unique interlining technology, such as ultra-thin interlinings and interlinings designed for difficult adhesion fabrics. We are focusing on the provision of products using recycled materials and easy-to-recycle products, and will propose various functions using our new dot coating technology D-ALIGN™ multi-functional process.

#### **[Company Overview]**

Nittobo Advantex Co., Ltd.

President : Tetsuya Mori

Headquarters : 1-6-1 Kuwazu, Itami, Hyogo

Established : April 2021, inheriting the interlinings business and dishcloth business of the Nittobo Group and started business in July 2021

Capital : 80 million yen, 100% subsidiary of Nittobo

Business : Manufacturing, processing and sales of adhesive interlinings, adhesive materials, functional materials, dishcloths, etc.

#### ■ Contact Information

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