

C2C textiles: healthy for people, safe for the environment

Textile products without any harmful chemicals that are biodegradable? Yes, that's possible. For the development of such products, Cradle to Cradle® experts of the international consulting institutes EPEA GmbH - Part of Drees & Sommer and Beneficial Design Institute GmbH set the goals of full quality, innovation, and beauty in design. In a series of projects, textiles and products from various fashion manufacturers were assessed and optimized according to Cradle to Cradle principles. One of the current joint projects began as a pilot project together with Lidl and the CHT Group, a global producer of specialty chemicals based in Tübingen.

To meet their responsibilities towards society and the environment, more and more companies are turning to Cradle to Cradle (C2C). According to the C2C concept, products enter the biological or technical cycle after their use time without any loss in quality and serve as raw materials for new products. This avoids downcycling, wasting raw materials and the creation of waste. The product design follows a holistic approach of material health and safety through production, use and re-use and thus make an entirely positive contribution to people and the environment.

More and more textile products are being developed, optimised and certified according to the C2C Certified™ product standard. The Beneficial Design Institute GmbH and EPEA GmbH - Part of Drees & Sommer are among the few companies that contribute towards the development and implementation of circular textiles. EPEA has extensive knowledge of material composition, dyestuffs and finishing chemicals for textiles and applies this know-how to optimise products for circularity. The Beneficial Design Institute, as an institute for sustainable design and circularity of products, brings its expertise in holistic design for circular and healthy fashion and textile products into innovative projects.

From individual substances to the entire supply chain

When designing and manufacturing C2C textiles, every individual ingredient is tested for its suitability for environmental and human health. The design marks the beginning of this process. The experts select materials and chemicals from a scientific as well as from a design point of view in such a way that they are optimised for circularity. However, the development of a C2C textile product does not end with testing the material composition. C2C experts also ensure complete supply chain transparency through effective and extensive control of the production process. They check all aspects of production for resource efficiency and circularity - from the effective use of raw materials to the use of chemicals that are harmless to health, the purity of water and the use of renewable energies.

The Cradle to Cradle Certified™ certificate is the only label in the textile sector that assesses the cyclability of a product and makes a transparent statement about it.

A holistic quality can be achieved through the positive definition of the ingredients for technical and biological cycles, water management, occupational health and safety and the use of renewable energy. Beneficial Design stands for a positive cultural change that combines quality, innovation and beauty with sustainability in a global context.

Cooperation on the Lidl pilot project

In a fruitful cooperation between Lidl, Beneficial Design Institute GmbH, EPEA GmbH - Part of Drees & Sommer and the CHT Group, safe and circular textile products based on the Cradle to Cradle concept were developed for Lidl.

These textile products from Lidl are not only made from biodegradable materials but also use biodegradable printing pastes. These have been specially implemented as part of the joint project with the CHT Group and meet the strict criteria of the Cradle to Cradle Certified™ product standards at gold-level. All products of the pilot project are certified at Gold and Silver level. Together with Prof. Michael Braungart, co-developer of the Cradle to Cradle principle, the EPEA scientists evaluated the ingredients of these textiles according to C2C requirements, sorted out all harmful substances and accompanied the optimisation of the printing paste over a period of 18 months. The Beneficial Design Institute GmbH was responsible for the overall design and project direction.

"The future of textiles and clothing lies in a holistic understanding of quality. The pilot project shows with the approach of holistic, beneficial design that healthy and safe production can also be successfully implemented in countries such as Bangladesh. This gives hope for a global partnership towards a positive cultural change in the fashion and textile industry," says Friederike von Wedel-Parlow.

"We encourage all textile manufacturers to develop their products according to the C2C concept. The advantages are obvious: not only will they receive textiles of high ecological quality, know all the ingredients of their products and establish transparent supply chains, but they also contribute to a positive and above all noticeable improvement to the environment," says Friederike Priebe, Team Leader C2C-Textiles at EPEA GmbH - Part of Drees & Sommer.

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Beneficial Design – Creating Positive Fashion

The Beneficial Design Institute GmbH is a design research and development institute with a focus on fashion and textiles. It follows a positive and holistic design approach that goes beyond the product and designs systems and processes of production, use and return. The aim is to create positive and beneficial effects for all those involved with the product, the users and the environment. Sustainable design processes and systems are applied in a transdisciplinary setting: Positive effects for people, nature, culture and business arise from resource-effective and circular product, manufacturing, sales, communication and usage concepts. The aim is to create cultural change by combining quality, innovation and beauty.

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EPEA – Circular Economy powered by Cradle to Cradle

EPEA GmbH - Part of Drees & Sommer is an international research and consulting institute for environmentally friendly products, processes and buildings. The 35-member team works together with manufacturers and stakeholders from industry, the public sector and science on solutions for the circular economy. To this end, they apply knowledge from chemistry, biology and environmental science to develop or optimise products of all kinds with regard to their material health and cyclability, and develop concepts for closing material cycles in production processes, buildings and cities. Further information can be found on the website at www.epea.com.

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About CHT Group

The CHT Group, a medium-sized global player in specialty chemicals, is actively involved in development, production and sales worldwide. CHT Germany GmbH in Tübingen is the headquarters of the group, which focuses on sustainable chemical products and process solutions. CHT TEXTILE SOLUTIONS improve the quality, functionality, appearance and purity of textiles and optimize their manufacturing processes. The CHT Group is represented worldwide by 29 companies with production and sales locations and generated consolidated sales of EUR 513 million with 2,200 employees in the 2018 financial year. Further information can be found on the website at www.cht.com.

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