

SUMO



Sumo & Kelheim Fibres develop sustainable and high-performance absorbent washable diaper pad

Up to the age of three, a baby uses around 5,000 diapers - and although common disposable diapers score points with their convenient handling, parents are increasingly looking for a healthy and sustainable alternative to these products, which are in most cases synthetic. After all, they cause an enormous amount of plastic waste - in Germany alone, 10 million diapers are disposed of every day.

There are two ways to solve this dilemma: Either disposable products are made from bio-based or biodegradable materials, or reusable products with a longer life span replace disposable products.

Founding team Luisa Kahlfeldt and Caspar Böhme go even further and combine both with their "Sumo Diapers." They have created a reusable cloth diaper that is made entirely of sustainable materials while offering high performance and innovative design.

The Sumo Diaper is a fitted cloth diaper that consists of a waterproof cover and absorbent inserts. The cover is sewn in such a way that a pocket is formed: this is where the absorbent pad is inserted to prevent slipping.

To further enhance the performance of this absorbent pad, the Sumo team went in search of a partner and found one in the renowned viscose special fibre manufacturer Kelheim Fibres. "Kelheim Fibres' specialty fibres are a perfect fit for us. Like all the fabrics we have developed for Sumo diapers, the fibres in the insert developed with Kelheim are based on cellulose and are biodegradable. They are as good to baby's skin as they are to the environment, and - thanks to their targeted functionalisation - they outperform other cellulosic fibres, as well as synthetic fibres," says designer Luisa Kahlfeldt.

Beyond that, Kelheim Fibres brings decades of experience from the hygiene

sector, especially for sensitive applications where high absorbency is required (such as tampons), and has made a name for itself in the industry as an innovation pioneer.

Together, Sumo and Kelheim Fibres have developed a high-performance absorbent pad that uses no fossil materials.

The basis for the innovative design form Kelheim's functionalised specialty viscose fibres with adapted cross-sections. Needle-punched / thermobonded nonwovens with a blend of specialty viscose and PLA bicomponent fibres were chosen to ensure the product's washability. PLA stands for polylactic acid made from natural and renewable raw materials. By combining nonwovens, usually found mainly in the single-use sector, with reusable products, Sumo and Kelheim Fibres have chosen a completely new approach.

Inside the pad, the speciality fibres from Kelheim score with their special properties: In the distribution layer (ADL), the trilobal cross-section of the Galaxy® fibre forms capillary channels that enable efficient and optimized liquid distribution and thus optimum use of the capacity of the absorbent core, offering the lowest rewet values.

In the absorbent core, the segmented hollow fibre Bramante stores liquid not only between but also inside the fibre. The liquid remains there even when

pressure is applied to the construction, providing excellent rewet values. Bramante can absorb up to 260% of its own weight in liquid (cotton only achieves values of around 50% here).

The innovative nonwoven construction with the speciality fibres from Kelheim performs significantly better in tests in terms of air permeability, liquid absorption and rewetting than commercially available solutions made of synthetic fibres or cotton in knitted structures, and has earned Sumo diapers a place among the finalists for the IDEA® Long-Life Product Achievement Award.

Dr. Marina Crnoja-Cosic, Director New Business Development at Kelheim Fibres, said, "Working with Sumo is inspiring and professional in equal measure. We share a passion for driving the transformation to a bio-based society with innovative solutions. The entire Kelheim Fibres project team, led by Innovation Manager Ilka Kaczmarek and Project Manager Dominik Mayer, is very proud that our fibres are now part of the Sumo diaper, offering young parents a sustainable product that meets their need for a comfortable, reliable and skin-friendly diaper solution for their babies."

The launch is scheduled for the first of May.