



European
Commission

LIFE GLUELESS: 'As Natural as We Can'

Petrol based Glue and Energy consumption reduction in diapers production processes

Reducing the environmental footprint of diapers

Bonding processes are important for the production of many consumer products, including absorbent hygiene products (AHP). Bonding processes normally involve glue.

The production of diapers in the European Union uses more than 30 000 tonnes/year of glue. However, a significant decrease in the environmental impact of AHP can be achieved through a drastic reduction of glue in the production process.

Gluing, which is one of the most energy-intensive sub-processes, can be replaced by innovative combinations of thermos-welding and ultrasonic bonding, which allow reductions in the use of petrochemical - based glue along with substantial energy and cost reductions.

Building the sustainable future for new generations

The consortium, comprised of the company Fameccanica Group which is responsible for the commercialisation of the solution, together with its partners The University of Manchester and Fater Spa, developed five Glueless™ processes to produce important elements of baby diapers and for each feature, defined the technical proposal, carried out the product design, process and laboratory prototype equipment.

The five elements of baby diapers are as follows (i) **GLUELESS™ ADL APPLICATION** - ADL to be welded on nonwoven topsheet with an ultrasonic system using a properly designed pattern; (ii) **GLUELESS™ CUFFS ELASTICS** - Cuffs elastics mechanically fixed between two layers of nonwoven in intermittent mode; (iii) **GLUELESS™ FRONTAL TAPE** - In line creation of a backsheet with "loop frontal tape"; (iv) **GLUELESS™ CORE** - Core welded between two layers with a mechanical or ultrasonic system using a properly designed pattern; and (v) **GLUELESS™ EAR APPLICATION** - Ears application without glue reinforcement.

Four out of five applications have already been successfully established in the market. In particular, the **GLUELESS™ EAR APPLICATION** has set the market benchmark for other solutions.

Sustainability is in the company's DNA as one of its key values. It is a part of the strategy and day to day business. Furthermore, every new solution they develop must bring significant positive impacts and improve environmental conditions.

Sustainability, driver of growth and change (a message from the coordinating beneficiary – Fameccanica Group)

"Fameccanica, sustainability is a driver of growth and change in our strategy, which is led by innovation and by empowering people. Sustainability has a 360° approach and represents a responsibility and an opportunity to continuously improve the quality of its products and services by ensuring responsible sourcing of raw materials throughout the supply chain, ensuring respect for human rights, and promoting sustainable practices to conserve natural resources."

Learn more

Project acronym: LIFE GLUELESS

Reference: LIFE12 ENV/IT/000423

[Project website](#)

Do you want to benefit as well from support to commercialise your innovative solution?

Contact us at:

