

## Building Momentum

The time has come for airlaid as the basis for new disposable, flushable, dispersible and biodegradable wipes.



The HLAL nonwoven



Campen's new hydrolaced airlaid product with a weight of 52-55 gsm.



The web and its fibres are 100% dissolved in water after stirring.

**CAMPEN Machinery A/S, Denmark, has perfected a 20-year old technology to combine airlaid with the spunlacing process to produce a 100% disposable and biodegradable nonwoven for wet and dry wipes. This nonwoven is characterized by extremely soft wipes with a very high tensile elongation making this raw material a sustainable product without compromising on quality.**

### Historical review – wipes turn to waste

In the 1980s and 90s, chemically bonded airlaid nonwovens were mostly employed for conversion into wet and dry wipes. From the late 90s, carding technology and the hydroentangling/spunlace process took over from airlaid nonwovens for this industry. Today, this technology is still used to produce a majority of the world's wet and dry wipes. The environmental disadvantage of wipes made with this technology, however, is that they all contain a certain percentage of oil-based plastic and/or chemical bonding agents, which means that they do not compost 100% in nature and/or dissolve in water for later purification. After use, the wipes/waste are taken to landfill sites or burned in suitable incineration plants, which contributes to the global increase of CO<sub>2</sub>.

Some companies are currently using wetlaid technology and hydroentangling/spunlace processes to produce disposable, flushable, dispersible and biodegradable wipes without plastic or chemical bonding agent.

The airlaid process now offers an alternative and economical route. The airlaid forming process is an environmentally and operating cost friendly process. Furthermore, the process makes it possible to use different types of manmade or natural fibers in a homogeneous mixture or in a sandwich construction. This gives the customer the opportunity to design and produce a variety of unique final products with different product performance.



### **Development of the airlaid and spunlacing process**

More than 20 years ago, a team of airlaid specialists, currently working for Denmark headquartered CAMPEN Machinery A/S, developed the technology for combining airlaid with the spunlacing process. The raw materials for the final product were fluff pulp and short cut Lyocell fibers at a length of 4 to 12 mm.

The resulting web was a 100% disposable and biodegradable nonwoven, and with the use of shorter or/and less Lyocell fibers the product was also dispersible and flushable.

At that time, however, there was a lack of concrete interest in this product as a result of a number of factors that applied back then:

- The price of Lyocell fibers and the final products which were both too high compared to existing types of wipes
- The availability and quality of short cut Lyocell fibers for the airlaid forming process was not sufficiently established
- There was a general lack of production lines available
- The consumer interest in sustainable products and the attractiveness of dispersible, flushable and biodegradable nonwovens was not then a pressing issue

In order to be more sustainable in the production and use of dry and wet wipes – and in recognition of the highly anticipated demand for disposable, dispersible, flushable and biodegradable nonwovens – CAMPEN Machinery A/S has now taken up this 20-year-old development/process again and has further developed the technology, adding new features to the process. The CAMPEN airlaid/spunlace processing line is now able to produce a dispersible, flushable and biodegradable nonwoven which is characterized by extremely soft wipes with a very high tensile elongation before the web breaks. This is a key feature when the consumer is pulling out the final product from a can or package in dry or wet condition.

### **See results and initial products at INDEX17, 4 – 7 APRIL 2017, GENEVA - SWITZERLAND**

During the past two years, CAMPEN Machinery A/S has carried out a number of trial runs, and the results and initial products can be seen at the INDEX17 trade fair in Geneva.

For more information: meet us at booth 4035 - AUTEFA Solutions.

## Machinery for sustainable nonwovens by CAMPEN

CAMPEN Machinery A/S's hydrolaced airlaid nonwoven line for the production of dispersible, flushable and biodegradable products consists of the following units:

- Hammer mill lines (defiberization)
- A fiber opening and dosing system
- An unwinding unit
- A number of airlaid web forming units
- A web pre-bonding unit
- The spunlace process system and dryer, both supplied by AUTEFA Solutions
- A web softening unit
- An automatic winder
- An off-line slitter/rewinder
- A roll handling and packaging line

The machines can be supplied in working widths from 600 mm to 4800 mm. or as per customer specifications.

Please note: Other line configuration with carding, spunbond/meltblown, unwinder systems etc. can be composed or as per customer specifications.

For more information please contact:

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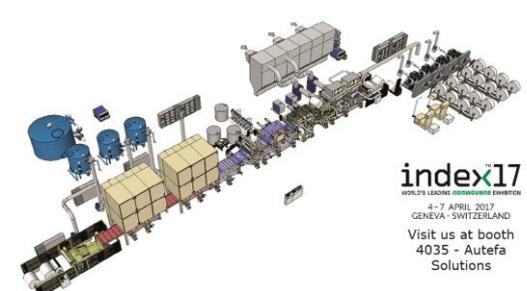
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## CAMPEN

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