



NONWOVEN & TEXTILE

**FORM THE FUTURE
WITH AIRLAID**

FOR YEARS TO COME

ANDRITZ

ENGINEERED SUCCESS

"Airlaid is often referred to short fiber technology because it is typically used to process cellulose (short fibers). It is the method of choice for the production of materials used as absorbent cores for hygiene products.

However, there are a variety of other applications, from tablecloths to filter materials. Today, the airlaid process is gaining attention as there is a growing interest in using (more) pulp."

EDANA, The Voice of Nonwovens

[Airlaid line configurations →](#)

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Numerous line configurations

Benefit from a versatile and reliable process. With our vast experience and state-of-the-art equipment, ANDRITZ Dan-Web is known as a leading supplier of airlaid technology. We supply airlaid systems with capacities ranging from less than 1,000 t/a to well over 25,000 t/a. All individually tailored to your needs.

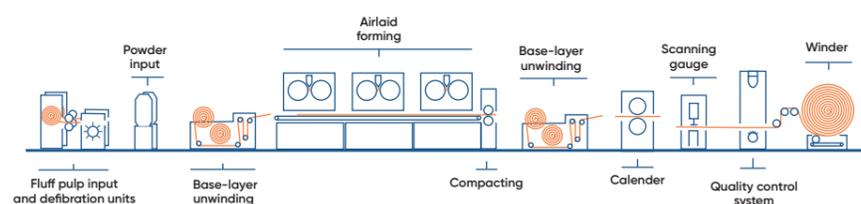


UNIQUE CHARACTERISTICS
Airlaid fabrics are made from short fibers, like pulp, or homogeneous blends of different fiber types, e.g. from fluff pulp and bicomponent binding fibers. The use of cellulose fibers allows the nonwoven products to be sustainable and often biodegradable.



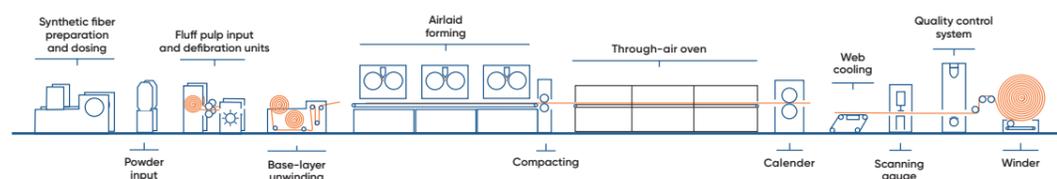
ABSORBENT HYGIENE CORES

150 - 350 gsm



FILTER MEDIA AND WOUND CARE

50 - 150 gsm



VARIOUS APPLICATIONS

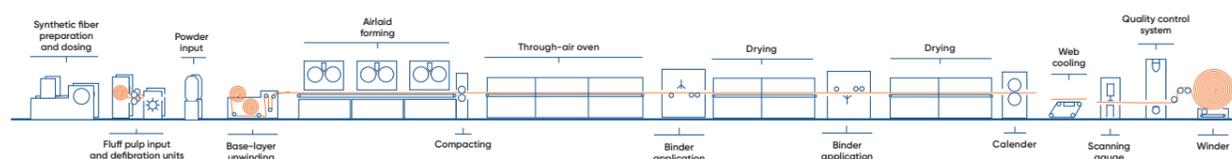
Airlaid can be used for a large number of markets, such as:

- Biodegradable, baby, cosmetics, household wipes
- Technical and hard surfaces wipes
- Absorbent hygiene products for baby, adult and fem care
- Food pads for meat, fish and fruits
- Napkins and table cloths
- Wash gloves and bed covers
- Filter media
- Wound care ...



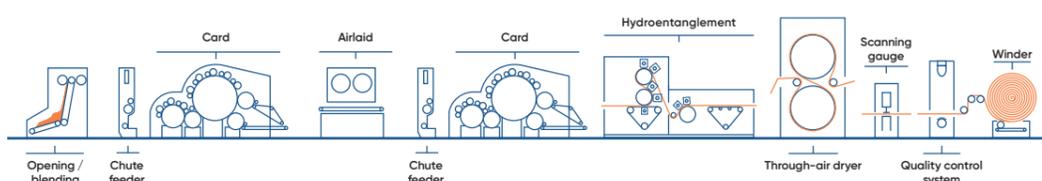
WIPES

45 - 100 gsm



BIODEGRADABLE WIPES

30 - 100 gsm



Form the future with airlaid



Complete airlaid lines for short fiber processing:

ANDRITZ Dan-Web offers complete airlaid lines and solutions to help nonwovens producers choose the right equipment to save time and money. Benefit from an extremely flexible airlaid technology with a wide range of raw materials and fiber lengths that can be used and combined.

GET TO KNOW THE AIRLAID PROCESS

The airlaid technology can perfectly process short fibers. These are fed into a forming head by an airstream. The forming head ensures a homogeneous mix of all fibers. Using air once again, a controlled part of the fibre mix leaves the forming head and is deposited on a moving belt, where a randomly oriented web is formed.

Airlaid webs offer great versatility in terms of the fibers and fiber blends that can be used are extremely soft and not have a laminate structure.

The addition of super absorbent materials enhances the absorbent properties of the products allowing them to be used as absorbent core material.

With the airlaid technology you can produce single or multi-layer products specifically engineered to meet your requirements regarding specific product performance.

LEAN MORE ON OUR WEBSITE
For insights into the ANDRITZ airlaid process and solutions



Dedicated service

We know how important uptime is for your production efficiency. That's why we do everything to keep interruptions to a minimum. With remote maintenance and a highly responsive service team, we can react to your concerns in the shortest time possible.

SPARE PARTS

To ensure the longevity and the performance of your equipment, we recommend using only original spare parts from ANDRITZ. A sales team for spare parts is at your disposal at ANDRITZ to help you make your choice.

UPGRADES AND RETROFITS

ANDRITZ specialists are available to inspect your production lines and propose improvements to extend the product life of your equipment and enhance productivity. For instance, an airlaid forming head can be perfectly retrofitted to a carding/spunlace line.

SKILLED TECHNICIANS AT YOUR DISPOSAL

With the goal of providing the most efficient and reactive service as possible, ANDRITZ assigns a dedicated team of skilled technicians, as well as automation and textile engineers.

ONLINE SUPPORT

ANDRITZ wants to support you at all times. A competent partner is always available to assist you with any problems related to product, mechanical, or electrical/electronic issues.

BENEFITS

- ANDRITZ service centers around the globe
- Technical and electrical diagnosis by experts
- Complete stock of original parts
- Assistance with installation, operation, maintenance, and training
- Improve your production operations
- Enhance the performance of your equipment



Foresee digitally with Metris

Industrial Internet of Things (IoT), Industry 4.0, digitalization – current buzzwords that industries use when seeking to improve their performance and equip themselves for the future of industry.



ANDRITZ DIGITAL SOLUTIONS

As a technology leader with extensive and long-term experience in supplying industrial measurement, control, and optimization solutions for various industries, ANDRITZ is combining process and equipment expertise with the latest enhancements in the digital era. The result of this powerful combination is Metris: a portfolio of ANDRITZ Digital Solutions.

METRIS OPP

One of the flagship capabilities of the Metris assortment is its ability to optimize industrial processes with Metris OPP. It has been developed over the past decade within the pulp and paper sector before being introduced to the nonwovens industry. It combines powerful analytical and data mining software with the knowledge of the world's top process experts to deliver a smart service initiative for customers.



A CONSTANTLY GROWING PORTFOLIO

The depth and effectiveness of the Metris portfolio continues to improve thanks to ongoing R&D, collaboration with key customers and institutions, and venture activities. Portfolio options all rely on the three strategic focus areas of the Metris brand: Industrial IoT techno-

logies, Smart Service concepts, and Venture activities. The main technological advancements integrated into individual Metris products are derived from big data analytics, smart sensor technologies, and augmented reality solutions. The Metris UX platform, which provides full support throughout the entire lifecycle of a plant, is the most

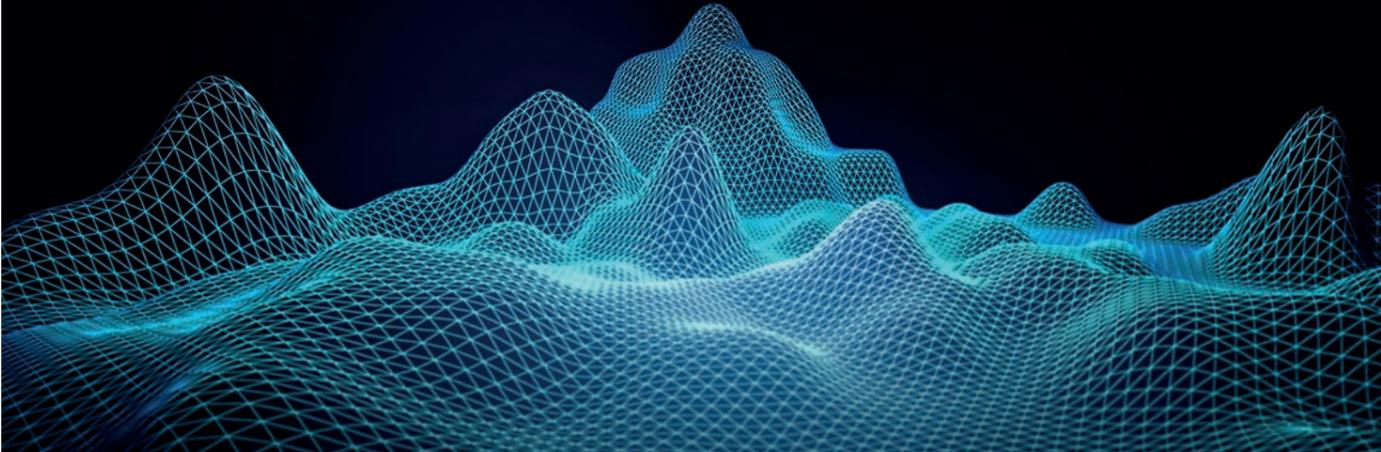
recent of our IoT developments. With Metris solutions, customers foresee digitally due to the continuously improved portfolio and its performance – and thanks to ANDRITZ providing tailored and fully integrated digital solutions from a single source.



Benefits

Metris – ANDRITZ Digital Solutions

- IIoT solutions across business segments
- Combined know-how from ten years' experience with Metris OPP
- Using the latest smart sensor technologies
- Big data analysis with tried-and-tested models for deviation analysis
- Providing information locally with augmented reality
- Extensive solution and process engineering knowledge
- Cyber security solution to safeguard data on the network



Defibration

Airlaid products require a very high degree of defibration and gentle fiber treatment. Our defibrator technology meets these demands perfectly and is used for our own airlaid and other technologies/applications.

SUITABLE FOR MANY APPLICATIONS

ANDRITZ Dan-Web defibration systems (hammer mills) produce a high fiber quality. In this process, the raw materials are broken down into individual fibers that can be used to produce a nonwoven fabric for several end-uses.

The high standard of fluff achieved has also proven beneficial to other industries that use fluff pulp as a raw material base, e.g. in the baby diaper, feminine

hygiene and incontinence industries.

Our defibrators are available for standard pulp widths of 10" (254 mm), 20" (508 mm) as well as several other widths such as 635 mm, 1,000 mm and 1,100 mm.

LAB-SCALE DEFIBRATION SYSTEMS

In addition to commercial defibration systems, we also offer a lab-scale defibration system for 50 mm pulp, specifically designed for the performance of quality tests at both pulp manufacturers and their customers.

BENEFITS

- High degree of defibration
- Gentle fiber treatment to avoid fiber damage
- Very low downtime for maintenance
- Many years of experience in defibration systems

Web forming

At the heart of ANDRITZ Dan-Web airlaid technology is the web forming system, which can be used to produce a wide range of nonwovens based on either 100% pulp fibers or homogeneous blends of different fiber types, such as fluff pulp and bicomponent fibers.

FLEXIBLE PROCESS

The airlaid technology is extremely flexible regarding the use of raw materials and fiber lengths, which can be combined in the same process. The different raw materials are homogeneously mixed in the forming heads before web formation. By using multiple forming heads, it is possible to produce multilayer products, where each layer is designed to have a particular function, for instance acquisition, distribution, and absorption layers.

UNIQUE DRUM FORMING

The proven and unique drum forming technology is based on rotating, perforated drums that are fed with the fiber mixture. The rotation of the drums in combination with the internal rotating needle rolls creates a fluidized stream of fibers inside the drums.

The fiber or fiber mixture is extracted from the drums by a vacuum underneath the forming drums and placed on a wire to produce a uniform web.

PERFECT FIT FOR VARIOUS TECHNOLOGIES

ANDRITZ airlaid forming technology is ideally suited for combination with other nonwoven processes, such as spunlace. Enjoy the best of both worlds: the high strength of longer synthetic fibers combined with the cost-effective short cellulose fibers used in airlaid technology.

The airlaid forming unit can also be integrated into a dry molding fiber (DMF) line to produce sustainable packaging and single-use products without the use of plastics or synthetic materials.

BENEFITS

- Specifically designed to handle short fibers
- Able to process a wide range of fiber materials from cellulose to glass fibers
- Very uniform web formation, which has almost the same strength in both web directions
- Homogeneous mixing of different fiber types, for instance fluff pulp and synthetic fibers

Bonding

ANDRITZ offers flexibility in bonding to achieve the best result. The airlaid fiber structure can be bonded to a nonwoven in various ways. Thermal, latex, a combination of both, hydroentanglement or hydrogen bonding – we offer the full range!

CHOOSE FROM A WIDE RANGE OF BONDING TECHNOLOGIES

A crucial aspect of manufacturing high-quality airlaid products lies in the bonding technology employed during production. It is essential in determining the strength, durability, and overall performance of the product.

We offer a wide range of different bonding processes, enabling manufacturers to choose the ideal method for the required end use. Our bonding processes include latex-, thermal-, multi-bonding, hydroentanglement, and hydrogen bonding technologies.

By understanding and optimizing bonding processes, manufacturers can deliver airlaid products that effectively meet the diverse needs of various industries.

SPECIAL BONDING METHOD FOR WIPES: HYDROENTANGLEMENT

The airlaid technology can also be combined with other nonwoven technologies, such as spunlace. The material strength is achieved through mechanical web bonding via hydroentanglement, which entangles the fibers without the need for chemical binders or thermoplastic fibers. The method is widely used for different wipes products, especially for biodegradable wipes.

Bonding methods	Description	End product
Latex bonding airlaid (LBAL)	Binder is sprayed on both sides of the web, and dried and cured in through-air ovens/dryers.	Table top products, wet and dry wipes, household products
Thermal bonding airlaid (TBAL)	Synthetic fibers, typically bi-component fibers, are homogeneously mixed into the web structure with pulp. These fibers are then heated in a through air oven/dryer where the melted material bonds the fiber structure together. If super absorbent powders or fibers are mixed into the structure, these are also kept in place by this bonding.	Filter media, wound care, food pads and insulation material
Multi-bonding airlaid (MBAL)	This is a combination of latex and thermal bonding, where the inner part of the product is bonded by means of thermal bonding, and the outer surfaces are latex bonded. Like TBAL, MBAL can also contain super absorbent powders and/or fibers.	Absorbent cores, wipes, household products
Hydroentanglement	Longer synthetic fibers formed with pulp or airlaid web formed on a base web. The material strength is achieved through mechanical web bonding via hydroentanglement, which entangles the fibers without the need for chemical binders or thermoplastic fibers.	Wet wipes, flushable wipes, biodegradable wipes
Hydrogen bonding / X-bonding airlaid (HBAL/XBAL)	The products are bonded without the use of bonding fibers or liquid binders, but by applying a combination of high pressure, humidity and temperature. This method is used for some absorbent materials and has the advantage that the bond breaks up completely.	Adult incontinence products and bed sheets

BENEFITS

- Wide range of bonding technologies available, including sustainable methods
- High flexibility to achieve best results
- Comprehensive competence within ANDRITZ Nonwoven & Textile



Flat oven for homogenous bonding for a wide range of end products



Hydroentanglement unit for wipes applications

Drying

The right drying technology for your purpose: Due to the nature of airlaid products and the variety of bonding methods used, you need an efficient and high-performing drying technology. ANDRITZ has developed a drying technology that meets the requirements for the processing of short fiber materials and is able to process latex-, thermal-, and multi-bonded products in a single oven system.

SAFE AND SMOOTH PRODUCTION

The technology ensures safe and smooth production, as it has been developed to reduce the risk of fires, lower the maintenance costs and improve the hygienic conditions during production.

Our ovens range from one level ovens for thermal bonding to multi-storey ovens/dryers for latex and multi-bonding.

Our ovens/dryers are equipped with hot air cleaning and recirculating systems, and can be supplied with internal cleaning systems. All designed to save energy and to minimize downtime for maintenance and cleaning.

BENEFITS

- Perfect drying technology for all fiber types and bonding methods
- High drying and curing efficiency
- Low maintenance costs and durable design
- High hygienic production standards



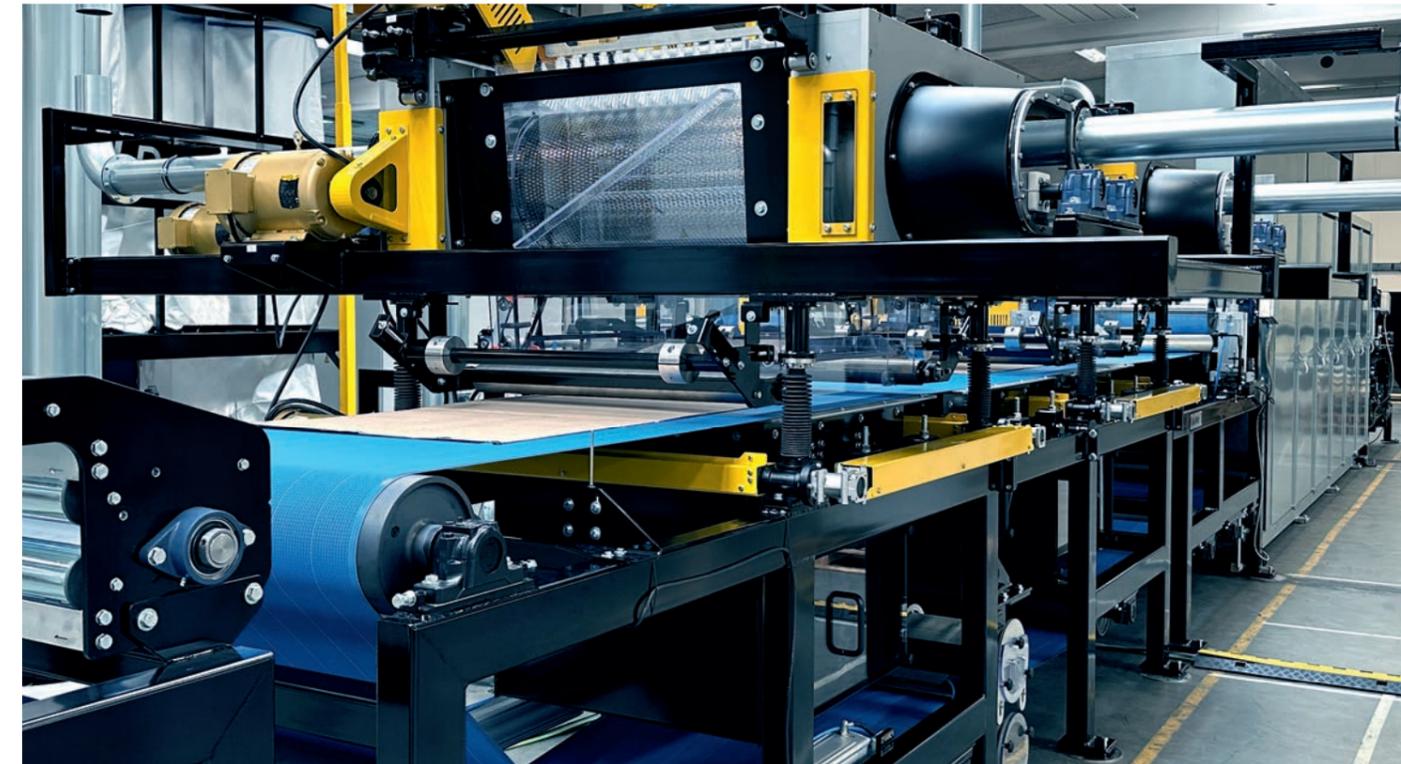
Airlaid pilot lines

We are highly experienced in pilot lines for research institutes as well as customer development centers. A pilot line can consist of anything from a simple web formation system to complete lines with equipment ranging from the raw material preparation to winding the finished product.

Pilot lines offer a cost-effective means of exploring process innovations and equipment upgrades without disrupting full-scale operations. By identifying and implementing improvements at the pilot stage, manufacturers can optimize efficiency, reduce waste, and enhance product consistency, ultimately boosting competitiveness in the market.

BENEFITS

- Conduct trials on your own lines in pilot scale
- Perfect fit for institutes and research centers
- Affordable investment costs compared to industrial lines





GET THE MOST OUT OF YOUR INVESTMENT

At ANDRITZ Nonwoven and Textile we know that your business depends on satisfied customers and efficient processes. That's why we support you in every aspect of your nonwoven and textile production. Take advantage of technology that will let you produce consistent quality for decades to come. Benefit from the highly efficient use of energy and raw materials that our production provides. You can rely on our responsive service teams to protect your investment and optimize your processes. Experience how innovative approaches and digital services give you more control than ever before. With ANDRITZ, the leading supplier for the nonwoven and textile market, you get the most out of your investment.

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