



**Your partner for  
high-quality nonwovens**

[norafin.com](http://norafin.com)





Our goal is absolute customer satisfaction through adherence to our values.

**Safety**  
**Quality**  
**Reliability**  
**Innovation**  
**Tailor-made Product Solutions**  
**Sustainability & Durability**  
**Partnership**  
**Know-how**  
**Flexibility**

Norafin &®



## Specialist for nonwoven solutions

Norafin is a globally active company with two production sites on 2 continents with around 240 employees and sales of around € 37 million\*. What drives us to develop the right solutions for specific requirements every day? It is our customers whom we want to bring forward with our know-how and our innovative products. It is our curiosity, which drives us to constantly explore new areas of application and develop new nonwovens for them.

\*Effective 2019

It is our responsibility to think about how we are influencing the environment around us and by diligently working to increase our sustainability, we can leave Earth in better shape than we found it. All this drives us to give our best every day –

**Innovative. Reliable. Responsible. Together!**



## Sustainability for our future

We are committed supporters of the Green Economy concept and consistently combine economic profitability with ecological sustainability. That is why we are constantly looking for ways to make our production processes more resource-efficient while at the same time increasing productivity, and why we attach great importance to the careful use of raw materials throughout the entire production process.

Our efforts in this regard are focused on seven areas: water, air, recycling, energy, raw materials, processes and above all, people. For example, we use spunlace technology, which does not require additional chemical binders, and we also treat and reuse our water. In the energy sector, we use performance indicators to identify potential savings.

Every day we work on reducing our footprint and on creating a more sustainable path for future generations to come.



## Products from renewable resources

In our production process, it is very important to manage the handling of raw materials. Our research and development team works daily on developing new high-quality nonwovens by using renewable and biodegradable raw materials. This has enabled us, for example, to produce nonwovens from flax fibers on an industrial scale by spunlacing and needlepunch technology. Due to their excellent properties, these nonwovens are used, for example, as composite materials or for interior decoration. Under our two brands Norafin ECOLINE® and Extra Organic® we offer products based on sustainable and recycled fibers.

The nonwoven solutions, which are based on viscose, flax, LENZING™ lyocell and PLA fibers, are mostly certified according to STANDARD 100 by OEKO-TEX® (16.0.90034 HOHENSTEIN HTTI) and labelled accordingly. We also process viscose from sustainably managed forests, which are labelled in accordance with the FSC® regulations for sustainable forest management.

Norafin  ECOLINE®

 EXTRA ORGANIC®  
FLAX WALLPAPERS



Das Zeichen für verantwortungsvolle  
Waldwirtschaft

NATURAL  
FOOTPRINT +  
SUSTAINABLE  
BIODEGRADABLE  
FEEL-GOOD-CLIMATE  
ECOLOGICAL  
INNOVATIVE  
ORGANIC

green up  
your life



## From the fiber to the product

Norafin processes a wide variety of staple fibers in lengths of 20–80 mm, in fiber finenesses between 0.9–20 Dtex and in various surface weights between 15 g/m<sup>2</sup> and 1,000 g/m<sup>2</sup>. These are fed to the carding machine as a homogenized fiber mat via opening and mixing devices, which opens the fiber tufts down to the individual fiber and creates a uniform web. Norafin then follows two different processing routes to the finished nonwoven fabric: spunlace and needlepunch technology.

During spunlacing, a homogeneous, intertwined textile structure is created by means of water jets. This nonwoven can be produced in various structures by using different drums. Thanks to our production line, we also have the capability to create two layer materials comprised of different nonwoven layers all in one step. Due to the wet processing the consolidated material contains a lot of moisture and is then dried in a screen drum dryer.

On the stand-alone needle line, the fiber pile is mechanically consolidated by vertically moving needles. In a second step further layers can be added to the material. If required, thermal fixing in the dryer is possible.

## Successful cooperative research

### Our research objectives

- translating customer needs into product functions
- transforming innovative ideas into high-quality products (including the entire development process)
- actively managing product life cycles and consistently driving further development up to the next product generation

Thanks to our extensive research and development work, plus our investments in quality and re-engineering, we are able to react quickly to changing market needs. Not only do we conduct research internally, but we also maintain strong partnerships with international universities and research institutes that support us in expanding our technology and product portfolio. The combination of our in-house strength and a strong external network enables us to develop comprehensive solutions for your requirements.

## Customized solutions

Norafin has been offering high-quality spunlaced and needlepunched nonwovens, innovative material structures and composites since the early 1980s and has established itself as a successful niche supplier in these areas. Our focus is on the development of customer-specific products for a wide range of applications: from cleaning wipes to filtration and face masks. In the national and international context, we stand for innovative, holistic solution concepts and perfectly fitting product functions.

### You have all possibilities - thanks to our flexible production technologies

- processing of a wide range of high-quality special fibers such as meta- and para-aramides, polyimides (PI), polytetrafluoroethylene (PTFE) and natural fibers (e.g. flax)
- production of special fiber blends in white and individual colors

- combination of smooth, structured and patterned single and multilayer material structures (calendered, perforated or reinforced with a scrim)
- management of large and small campaigns for special products
- various finishing options and further processing steps (e.g. coating, printing, laminating)
- production of composite nonwovens without the use of binders
- finishing of nonwovens with functional particles/fibers (e.g. for electrical conductivity, catalytic effects, gas storage, heatability, integration of sensors)

In order to be able to fulfil all your wishes, we work closely with strong business partners. Challenge us – *we provide you with competent solutions.*





# 1 Company. 5 Business Units. 18 Segments. Countless Possibilities.

With our extensive know-how, our technologies and our team of specialists, we develop and manufacture specific products and innovative solutions in cooperation with our partners and customers. And we do this in accordance with their individual requirements and wishes: Whether pleatable filters, cleaning wipes with special printing, sustainable flax wallpapers, stab protection vests or surgery swabs – we are the specialist for unique nonwoven solutions.







## Home & Cleaning

Cleanliness in all situations

Norafin <sup>®</sup>  
ECOLINE

Norafin <sup>®</sup>  
3D PERFORMANCE

| CLEANING | HOME CARE

Cleanliness is not only important within one's own home, but also in various industrial fields like restaurants, body shops or offices. Our high-quality nonwovens offer a cleaning solution for every situation. Whether it's with pre-soaked wipes for disinfecting in hospitals or wet or dry wipes, that are tear-resistant and streak-free wet, for proper cleaning of the beloved car – Norafin offers the best solution for your customized requirements.

And all this in individual colors, individually printed, in different structures and various grammages. Our nonwovens ensure strong results.

**Norafin Ecoline®** – these are all nonwoven solutions that are produced from 100 % ecological fibers such as flax, cotton, FSC® certified viscose or from blends thereof. Sustainability is an important issue for us. Therefore, we are constantly developing new solutions, which are produced from sustainable raw materials. Resource-friendly and efficient – this is what the Norafin Ecoline® products stand for.



## Medical & Beauty, Building, Composites

Protection in all circumstances

Norafin <sup>®</sup>  
3D PERFORMANCE

Norafin <sup>®</sup>  
ECOLINE

| LIGHT WEIGHT  
STRUCTURE | MEDICAL, HEALTH  
& COSMETICS

| PAPER  
INDUSTRY | BUILDING &  
INTERIOR

We offer a wide range of different nonwovens for the most diverse requirements of our customers in the building industry, in medicine and cosmetics as well as for the use as composites.

Our medical nonwovens offer exactly the protection and reliability that is required in both medicine and cosmetics. They are used in a wide variety of applications: in hospitals as surgery cover or in patches and at home as cleaning tissues or as a base for face masks.

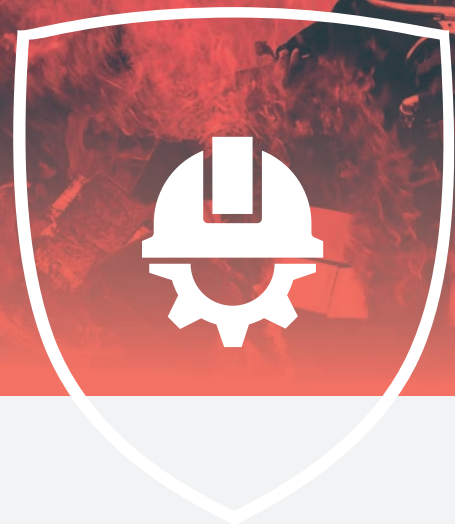
From the roof to the basement – especially in the construction sector it is particularly important to use materials that can meet the most diverse requirements. There are very different demands on the materials used in homes, companies and hotels. At Norafin, we have made it our business to develop high-quality, ecologically sustainable and durable components that meet precisely these requirements.

When developing nonwovens for composite structures, our focus is on performance and sustainability. Whether for roller coatings, as composites in wind turbines or as pultruded profiles in chemical plant construction, we offer high-performance products.

**Norafin 3D PERFORMANCE®** – that's our products with honeycomb structure. These include the bubble structure and our tile structure, which we can incorporate into our nonwovens using spunlace technology.







## Personal Protection

Special nonwovens that protect everything

Norafin   
KOMANDA

Norafin   
3D PERFORMANCE

INSULATION  
(FIRE & HEAT)

OTHER  
PROTECTIVE LAYERS

BALLISTICS /  
STAB PROTECTION

PROTECTIVE  
CLOTHING

Our special nonwovens help to protect people and animals every day: They protect the industrial worker, who operates in a high-risk environment; they support the athlete who exposes himself to dangerous situations and they protect firefighters against flames. Our innovative spunlace materials make hazardous workplaces less dangerous and offer enhanced comfort to wearers of personal protective equipment (PPE).

As a provider of comprehensive solutions, we concentrate on offering customized products. With a clear focus on performance and efficiency, we offer our functional nonwovens to garment manufacturers of the sports and occupational clothing industry worldwide.

**Norafin KOMANDA®** – that's the combination of two technologies that creates light and sturdy materials which are characterized by reusability and durability.

**Advantages of Norafin KOMANDA® material:**

- low weight and good drapability
- industrially washable (at least 50 washing cycles)
- ripstop



## Industrial & Technical Applications, Apparel

flexible solutions for everyday situations

Norafin   
GUARDIAN

Norafin   
KOMANDA

AUTOMOTIVE

PUBLIC & TRANSPORT

POWER SUPPLY

OIL & MINING

CLOTHING &  
FASHION

TECHNICAL  
APPLICATIONS

There are a number of different everyday situations where our nonwoven materials can be used. Whether it's inside engine compartments, public seating in buses and airplanes, or in clothing of workers who need added protection in extreme situations, such as cold, rain or electricity. Our nonwovens provide the perfect solution for various situations: either ultra-soft to provide added comfort, sometimes particularly stretch-resistant to withstand greater loads or even fire-retardant to meet certain standards.

Technical nonwovens by Norafin, which are used as fire blockers, are characterized by the fact that they offer important product features that meet market demands for durable, flame-retardant and lightweight fabrics.

**Norafin Guardian®** – these are our fire-blocking products which are characterised by their flame-retardant properties as well as their durability. They are used in private and public transport but also in public buildings where special protection against fire is necessary. This includes, among others, the seats in cinemas, stadiums and theatres.

**Advantages of Norafin GUARDIAN® materials:**

- fire-blocking and flame-retardant properties according to different industry standards such as EN 45545-2 and UIC 564-2, FAR 25-853 or 16 CFR part 1633 and others
- high resistance to fire
- low flue gas emission
- lightweight, high-quality material constructions durable product solutions





## Solutions for Filtration

Norafin ®  
CRYSTALEN



Norafin  
CRYSTALEN® AIR



Norafin  
CRYSTALEN® LIQUID

**Norafin Crystalen®** stands for nonwovens to filter air, gases and liquids. We supply filter media that optimize the product lifecycle, the filtration efficiency and the operating costs. Thanks to our own production technology and the possibility of processing a wide range of fibers (microfibers, PPS, meta-aramides, polyimides etc.), our nonwovens have an improved filtration performance. This enables Norafin to respond to the demands of the market in a personalized way.

Whether in the field of air or liquid filtration, we aim to convert your needs into the right product concept and offer a durable solution that provides you with increased safety. Thanks to the latest measuring technologies, we are able to carry out the necessary filter tests in-house.

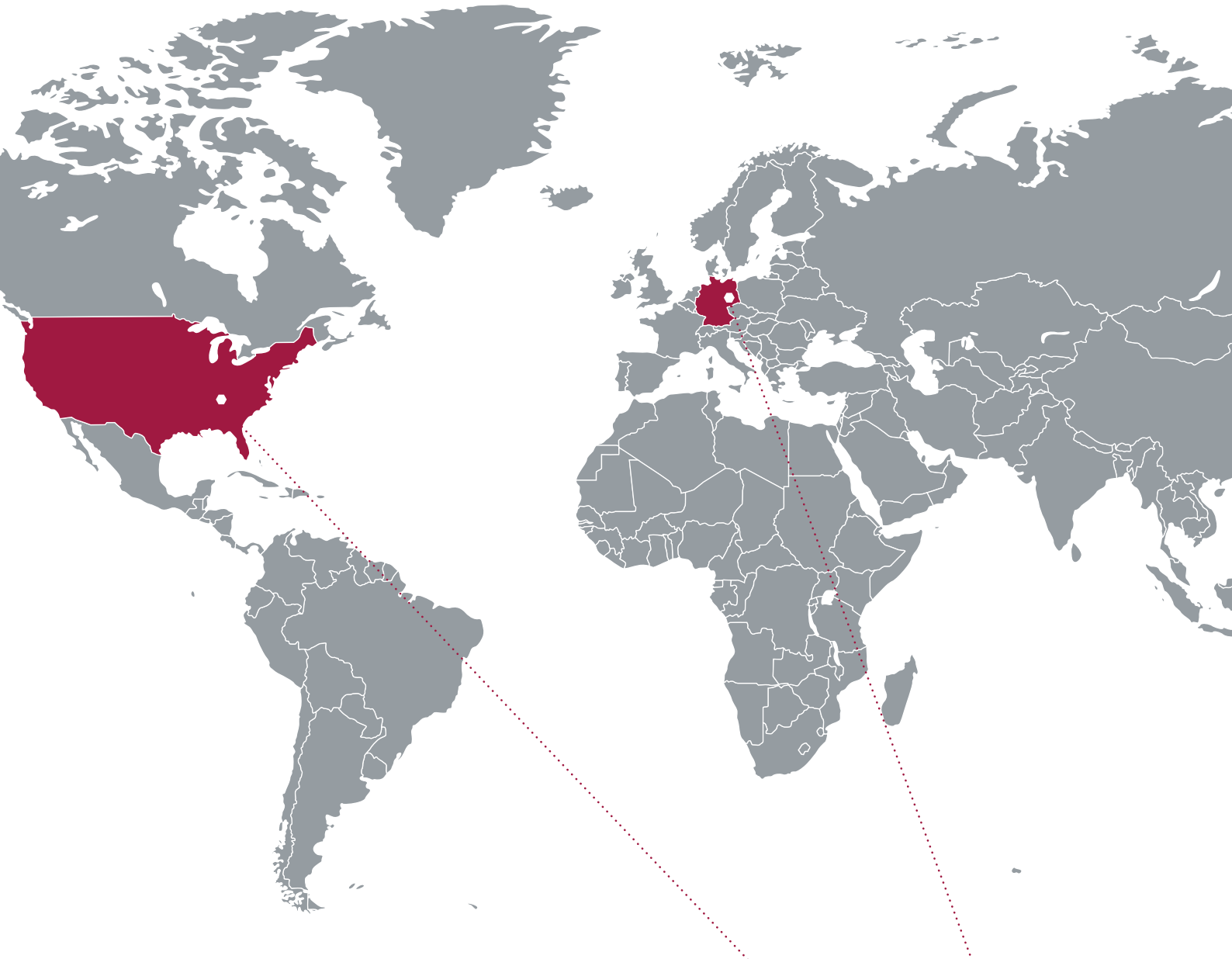
The spunlacing process bonds the fibers evenly and consolidates them in a natural way. During the bonding process, water closes the fiber gaps and holes without perforating the fleece. This leads to increased and finer pores of the actual filter medium. The resulting more homogeneous pore size distribution and the surface of the nonwoven fabric result in a comparable or better filtration performance at a lower fiber weight.

## Our goals for the future?

We want to expand our competences in packaging and further processing outside the field of rolled goods.  
**Please contact us for further information!**







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