

Norafin ®
materials for life

HYGIENE
AND CLEANLINESS



FOR *sustainable*
CLEAN SOLUTIONS



CLEANING WIPES MADE OF *Viscose & Lyocell*

We prioritize developing ecological and sustainable wipe solutions. Thanks to our spunlace technology and the resulting isotropic fiber orientation, we can process biodegradable cellulose fibers, such as viscose and Lyocell, in a way that makes them as stable as synthetic materials.

Our **Norafin ECOLINE®** brand comprises cleaning wipes made of renewable, recyclable materials. We prefer to use VEOCEL™ fibers for our nonwovens to support the production of biodegradable wipes.

- ✓ 100% plastic-free
- ✓ biodegradable and recyclable
- ✓ different structures: fine, coarse, extra coarse apertured or embossed
- ✓ weight range, between 30 – 200 gsm



Purely for you

VEOCEL™ is a trademark of Lenzing AG



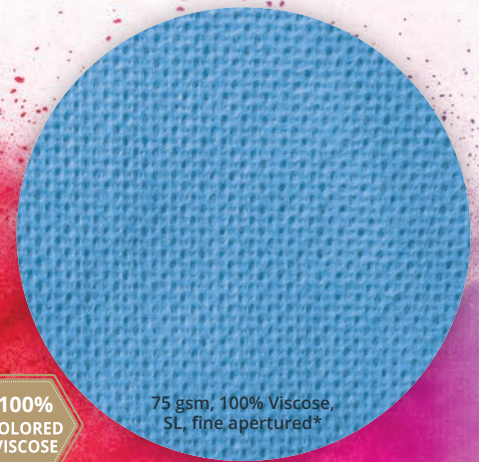
40 gsm, 100% Lyocell, SL, flat*



90 gsm, 100% Viscose, SL, Bubble*



65 gsm, 100% Viscose, SL, 3D-Performance*



75 gsm, 100% Viscose, SL, fine apertured*

Also available as
colored viscose 100%
environmentally friendly

* Please note: The indicated product is only one sample of our wide product range.



WIPE SOLUTIONS MADE OF *Natural Fibers*

Norafin is a pioneer in successfully processing natural fibers into tear-resistant, durable, and 100% eco-friendly nonwovens without using binders.

NONWOVENS MADE OF FLAX FIBERS

Nonwovens made from this renewable raw material have very high inherent stability and absorbency, making them perfectly suited to a variety of applications. Flax fibers are an ideal base material for various wipe solutions. One example is disposable washing gloves for daily personal hygiene. The antibacterial effect of flax helps to prevent germs and bacteria from spreading. With Norafin's Hydro-Stitch technology, washing gloves can be manufactured plastic-free.



50 gsm, 100% Flax, SL, flat*

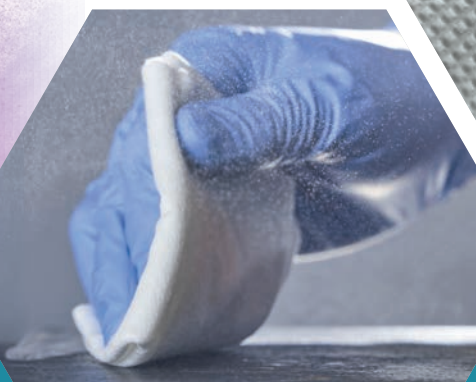


NONWOVENS MADE OF HEMP FIBERS

Nonwoven fabrics made from hemp are extremely durable and resistant to abrasion due to their natural fiber structure. Hemp fibers are naturally robust with high tear and scrub strength, making hemp a natural alternative to conventional polishing and abrasive materials.



60 gsm, 100% Hemp, SL, flat*



- ✓ renewable and biodegradable
- ✓ reusable
- ✓ absorbent
- ✓ tear-resistant, even when wet
- ✓ skin-friendly

* Please note: The indicated product is only one sample of our wide product range.



NONWOVEN SOLUTIONS MADE OF *Sheep's wool & Viscose*

Besides nonwovens made from flax and hemp fibers, our portfolio includes products made from sheep's wool. The combination with viscose fibers makes the nonwoven durable, soft, and particularly skin-friendly.



Thanks to our expertise in spunlace technology, we can produce high-quality, lightweight nonwovens from sheep's wool.

SUSTAINABLE, VERSATILE, AND POWERFUL

Our newly developed nonwoven combines the natural benefits of sheep's wool with the functionality and softness of viscose. Manufactured using our chemical-free spunlace technology, it is an eco-friendly, high-performance solution for a variety of applications that does not require chemical binders.



Where do we see the fields of application?

- ✓ **Hygiene products** (e.g. sanitary towels, diapers)
- ✓ **Textiles** (e.g. shoes, temperature regulation)
- ✓ **Construction materials** (e.g. insulation, drywall)
- ✓ **Filtration** (e.g. liquids, exhaust fumes, dust)
- ✓ **Cleaning** (e.g. sponges, wipes)



2 APPLICATIONS – 1 SOLUTION

Duo-Twist

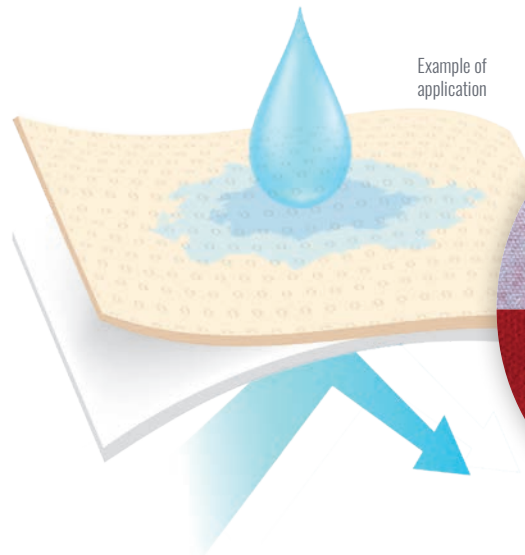
A special feature of our product portfolio is our multifunctional nonwoven, which combines two functions in one wipe.

During the manufacturing process, two different nonwoven layers are firmly and inseparably bonded together using high-pressure water jets. No adhesive is required.

This means that all customer requirements, such as specific structures, colors, weights, and fiber compositions, can be incorporated into one wipe – the Norafin Duo-Twist.

Possible wipe solutions:

- ✓ cleaning & polishing
- ✓ oiling & removing
- ✓ roughening & planing
- ✓ hydrophylic & hydrophobic
- ✓ 2-color solution

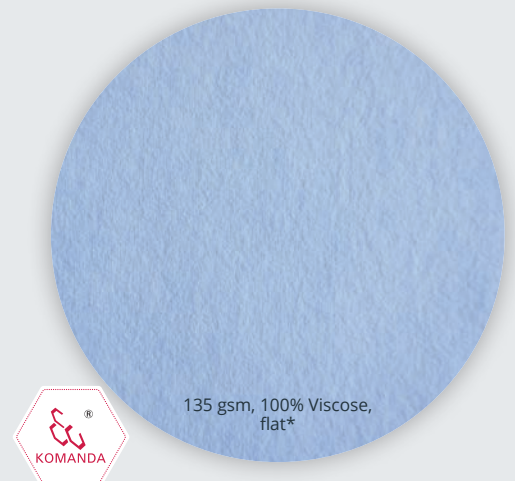


Reusable rather than disposable

Thanks to the combination of our internal technology we succeeded in developing our unique **Norafin KOMANDA®**-technology, which provides our nonwovens with exceptional performance characteristics. The resulting wipe solutions are highly tear-resistant and can withstand many industrial washes without losing performance. Therefore, they can be reused several times.



Norafin  **KOMANDA**



* Please note: The indicated product is only one sample of our wide product range.

NEEDLEPUNCH TECHNOLOGY

The fiber web is processed "dry" on the independent needle line. The web supplied by the carding machine is mechanically consolidated by vertically moving needles. Additional layers can then be added to the material in a second step. If necessary, the material can be thermally fixed in the dryer.

✓ all colors available, including RAL colors

SPUNLACE TECHNOLOGY

Drops of water combine to form high-pressure water jets that strike a fibrous web to create an intertwined, uniform and resilient nonwoven. To ensure uniform bonding, the fibrous web passes through multiple nozzle bars and is processed on both sides. Different surface structures can be produced by using different drums. Additionally, two autonomous carding machines allow us to produce up to four-layer material constructions in a single step.

- ✓ smooth, perforated, and embossed (3D) materials
- ✓ multi-layer and double-sided material constructions
- ✓ all colors available, including RAL colors
- ✓ binder-free production with our own water treatment cycle

SUSTAINABLE, HIGH-PERFORMANCE AND VERSATILE

Most of our nonwoven solutions, which are made of viscose, flax, hemp, and lyocell fibers, are certified according to STANDARD 100 by OEKO-TEX®. We also process viscose from sustainably managed forests that are certified according to FSC™ regulations for sustainable forestry.

We are both ISEGA and IFS certified to ensure safety and compliance throughout the entire supply chain.



Get in touch with us!



Frank Aberle

Senior Sales Manager

Frank.Aberle@norafin.com
+49 3733 5507 225
+49 151 23260247

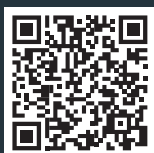


Manuel Sonnabend

Product Manager

Manuel.Sonnabend@norafin.com
+49 3733 5507 237
+49 160 90163102

Join us as a partner and let's move forward together towards a sustainable future.



Norafin Industries (Germany) GmbH

Gewerbegebiet Nord 3
D-09456 Mildenau
Phone: 03733 5507 0
info@norafin.com

www.norafin.de