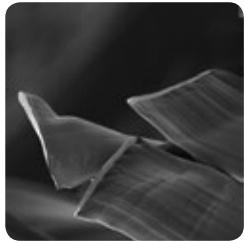


Functional Fibres for Unique Products



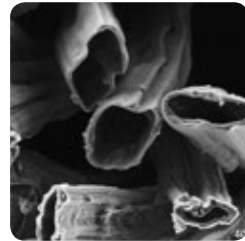
DISPERSION



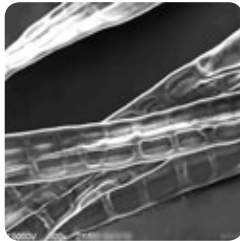
FLUSHABILITY



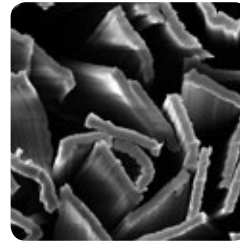
COLOURS



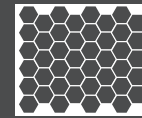
BULK



SAFETY IN USE



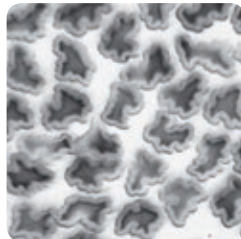
POROSITY



INTRINSIC FUNCTIONALITY



STRENGTH



ABSORBENCY



FLAME RETARDANT



Kelheim
Fibres

Functional Fibres for Unique Products

THE
VISCOSE FIBRE
TOOL BOX



Kelheim Fibres produces viscose speciality fibres for a broad spectrum of applications. We concentrate on the development of outstanding properties in our fibres that allow our customers to develop unique products – for Hygiene, Performance Textiles, Speciality Papers and Technical Applications such as Filtration or Flock. In spite of their different properties, all our fibres have one thing in common: they are made from 100% wood pulp, a renewable resource delivering sustainable solutions.

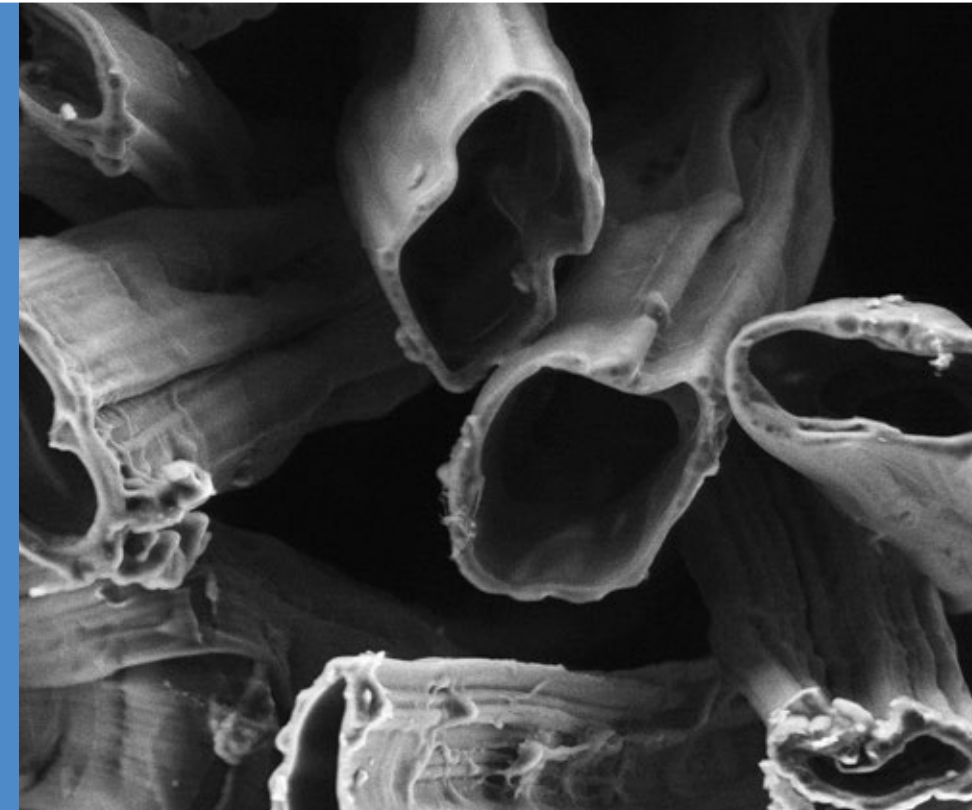


FLUSHABILITY 	FLAME RETARDANT 	COLOURS 	DISPERSION
SAFETY IN USE 	POROSITY 	BULK 	INTRINSIC FUNCTIONALITY
ABSORBENCY 	WEARER COMFORT 	SOFTNESS 	STRENGTH

Our viscose fibre production process offers manifold possibilities for modification of the fibres. By adjusting various parameters we can meet the precise needs of our customers and achieve a range of different properties. These intrinsic properties are the key to your individual solution.

I. Modification of Cross-Sections

By adjusting the spinning conditions, the cross-sections of viscose fibres can be modified. This lends the fibre completely new characteristics and qualifies it for new applications.



Bramante Hollow Viscose Fibre

Bramante is characterised by its segmented hollow structure in the wet state which delivers significantly increased levels of absorbency and water retention capacity relative to standard viscose fibres. Fluid is stored inside the fibre, which minimises re-wetting – even under pressure. Functional textiles, hygienic applications and washable incontinence products are just some end-uses in which Bramante helps deliver enhanced performance.

ABSORBENCY



BULK

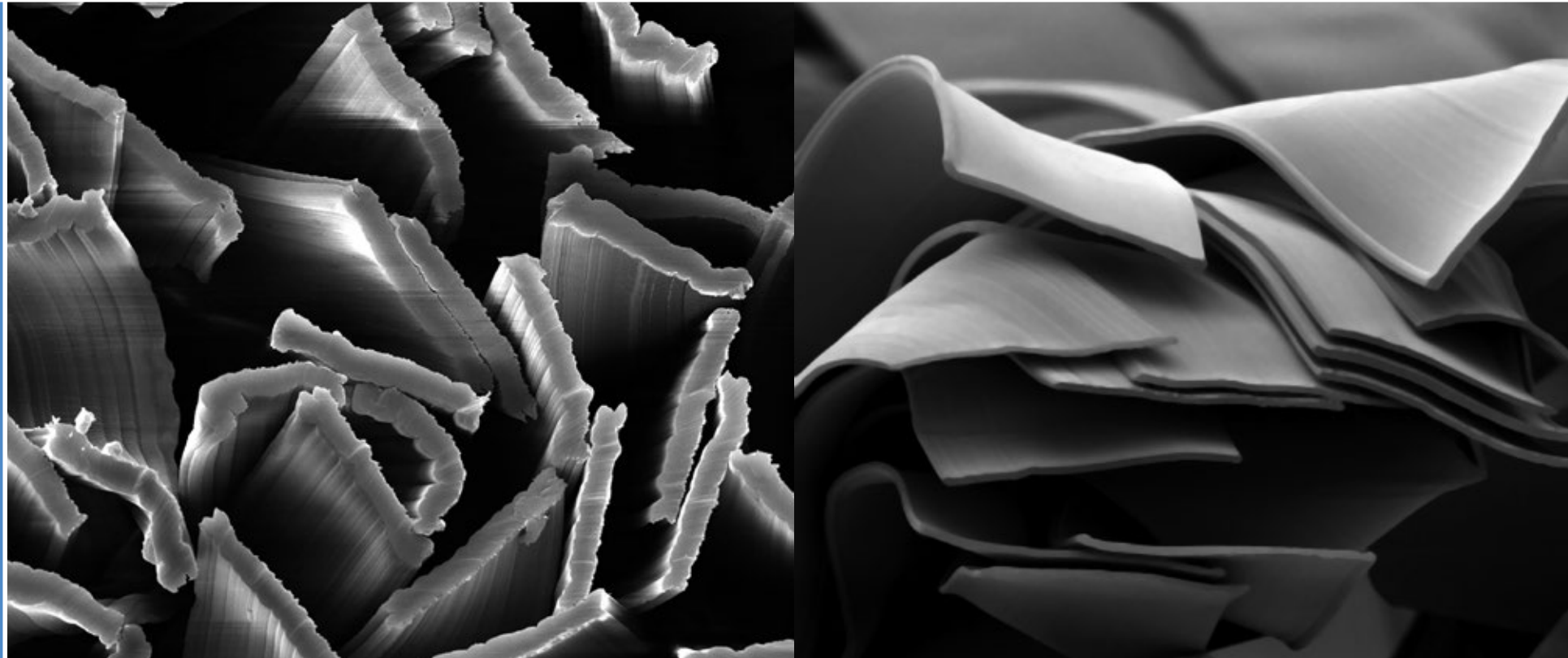


WEARER COMFORT



VILOFT® For Outstanding Wearer Comfort

VILOFT® is a specialty viscose fibre with a unique flat cross-section. Spun into a yarn, VILOFT®-fibres create hollow spaces filled with air for improved breathability. The increased fibre surface leads to exceptional moisture management. Pure or in blends with other natural or synthetic fibres, VILOFT® is used for functional next-to-skin textiles which offer outstanding wearer comfort.



Leonardo Transparent Flat Viscose Fibre

Leonardo is an extremely flat viscose fibre with a thickness-to-width ratio of 1:40. The fibre also exhibits a very even surface with completely parallel sides and a highly regular cross-section. Leonardo can be used for transparent papers as well as for the improvement of paper quality.

SOFTNESS



WEARER COMFORT



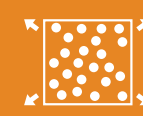
COLOURS



STRENGTH



DISPERSION



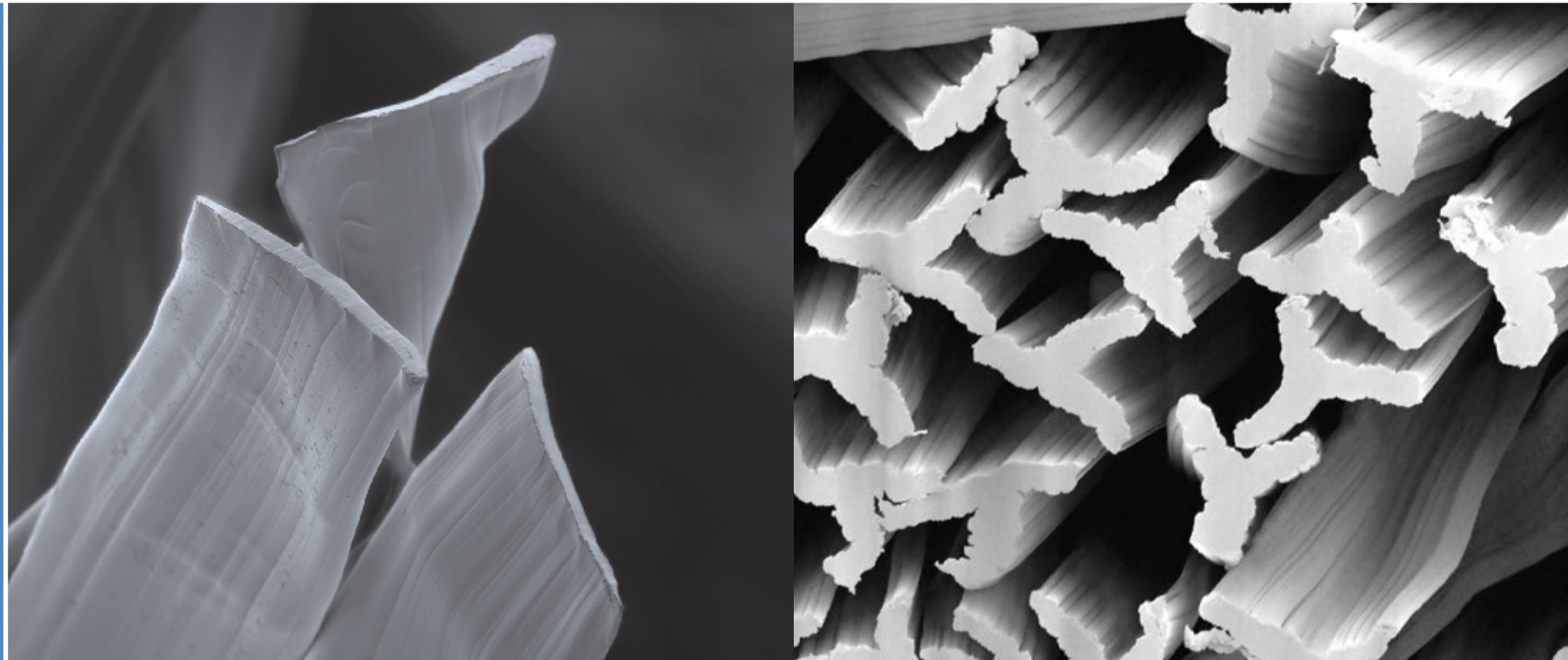
COLOURS



Bellini

Self-Bonding Viscose Fibre

Bellini is a highly flexible and fine fibre with excellent bonding properties. Less than 5% of Bellini added to paper pulps increase tear length, doublefold count and strength of the finished paper.



Galaxy®

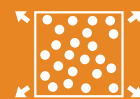
Trilobal Viscose Fibre
with High Absorbency

Galaxy® is a Y-shaped viscose fibre. Its special design increases the absorption capability of nonwoven structures. Galaxy® finds its main application in the manufacture of tampons, where it is the global market leader. Moreover, it is also used in standard nonwoven processes such as dry laying or spunlacing.

STRENGTH



DISPERSION



ABSORBENCY



BULK



SAFETY IN USE



SOFTNESS



II. Modification of Fibre Dimensions

Adjustment of the fibre fineness or staple length: making the difference!



Microfine The Ultrafine Microfibre

Microfine is among the finest fibres in the world. With a fineness of just 0.5 dtex it has around one-third the diameter of a silk fibre and delivers excellent softness and a beautiful silky sheen in advanced nonwoven fabrics for high quality wipes and hygiene products.

SOFTNESS



WEARER COMFORT



COLOURS



Tow and Short Cut

Endless Possibilities

Our continuous viscose tow, available in wet or dry form, is used in a variety of technical applications. The tow products help deliver precision cut fibres with consistent length with excellent dyeing properties and perfect behaviour in finishing as well as excellent dispersion and uniform flocking. The fibres may also be carbonised for use in high-tech materials.



Our short cut fibres with cut lengths of 3 to 12 mm deliver perfect dispersion in all wet-laid processes for the production of paper or nonwovens. The paper porosity can be precisely controlled by incorporating viscose fibre, while our other speciality fibres can help increase the tear resistance of the paper without loss of tear strength. Viscose fibres are 100% cellulosic and can therefore be easily incorporated into the paper matrix.

ABSORBENCY



BULK



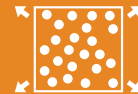
SAFETY IN USE



SOFTNESS



DISPERSION



POROSITY



COLOURS



Short Cut for Flushable Wipes

Flushable wipes have already secured a significant share of the market for hygiene products; moist toilet tissue and toddler training wipes are just some examples in this category. To help avoid clogged household pipes and major problems at municipal waste-water treatment plants, the guidelines issued by INDA and EDANA define in detail when a wipe can be considered flushable. Meeting the requirements of these guidelines is like squaring the circle: strength is required during production, unpacking and use; dispersability is required after use. The combination of wetlaid and hydroentanglement technology in one in-line process offers new possibilities to produce flushable wipes by using just pulp and man-made cellulosic fibres.



Kelheim Fibres offers modified viscose short-cut fibres to meet the different needs of a flushable wipe product. While meeting the flushability criteria, properties such as softness, absorbency or strength can be tailored to the requirements of different applications. As an example, Viloft® fibre with its flat cross section and a thickness-to-width ratio of 1:5 delivers sufficient bonding area to lock in other cellulosic fibres such as pulp. At the same time, the crenellated fibre surface allows water to penetrate during flushing, so the wipe can disperse easily. The fibres' special stiffness properties and the increased surface area result in a high flow resistance leading to a more effective dispersion of the tissue.

BULK



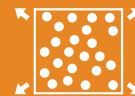
SAFETY IN USE



SOFTNESS



DISPERSION



FLUSHABILITY

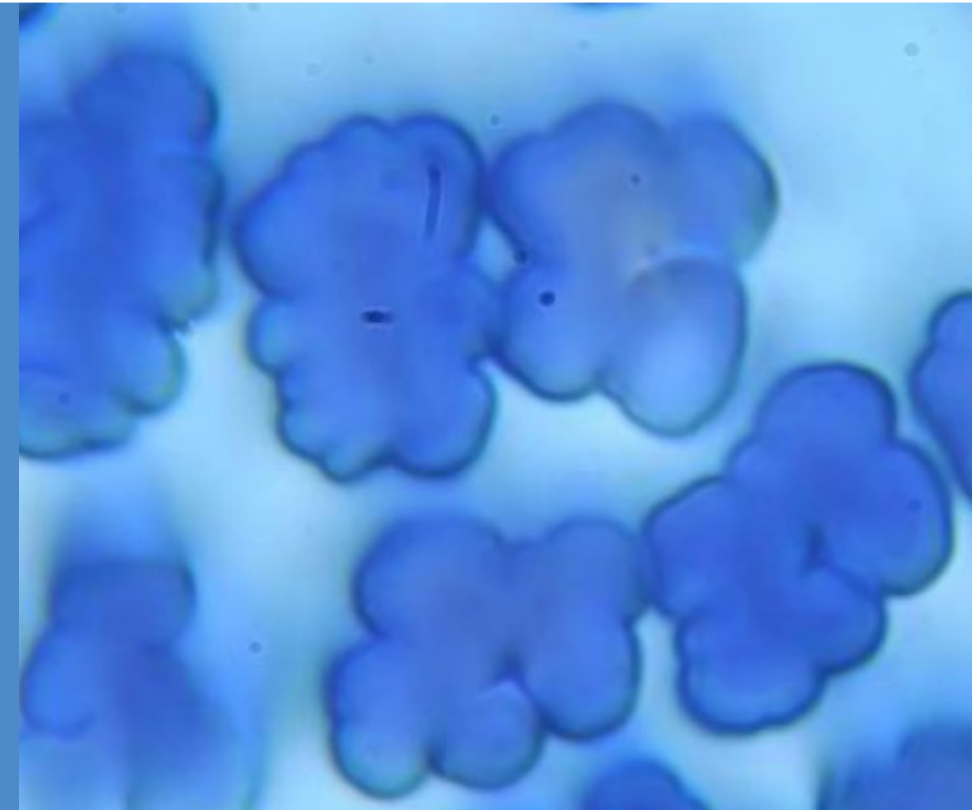


ABSORBENCY



III. Intrinsic Activation

By modifying the fibre surface charge, by incorporating active particles or by incorporating functional additives in the spinning dope, we produce modified viscose fibres that can deliver outstanding properties in your products.



Deep Dye For More or Less Colour

Deep Dye is a cationically activated viscose fibre with more than 40 times the dye pickup capacity and speed of standard viscose fibres. Deep Dye delivers brilliant colours and colour effects and reduces costs while protecting the environment by saving time, dyestuff, water and energy. For textile applications, Deep Dye can be used for melanges or for colour effects in blends with other cellulosic or synthetic fibres. In the nonwoven sector, it can be applied in all areas which require fast and effective dye absorption.

INTRINSIC
FUNCTIONALITY



WEARER COMFORT



COLOURS



III.
INTRINSIC
ACTIVATION



Olea

The First Viscose Fibre with Intrinsic Water Repellent Properties

The hydrophobic properties of Olea fibres are incorporated in the fibre matrix itself, allowing the typical characteristics of viscose fibres to be retained. The additive is locked into the fibre during the spinning process and the hydrophobic effect is therefore durable and cannot be washed out. The additive used is made of renewable materials, like the fibre itself, and so Olea is a fully biodegradable fibre. Olea is an environmentally friendly alternative for the cover- and back-sheets of hygiene products – for example nappies, sanitary towels or incontinence pads.



Danufil® BF The Barrier Layer Fibre

Danufil® BF is a viscose fibre with 30% anorganic additive content. When fabrics manufactured with the fibre come into contact with an ignition source, the organic structure of the fibre burns away, leaving a residual anorganic structure which acts as an isolating barrier against fire. Danufil® BF can be used in the manufacturing of products which meet the US Federal Mattress Flammability Standard 16 CFR Part 1633. Such products emit virtually no smoke and no toxic fumes and do not melt or flow when in contact with heat or flame.



Danufil® QR The Fibre that sets Quats free

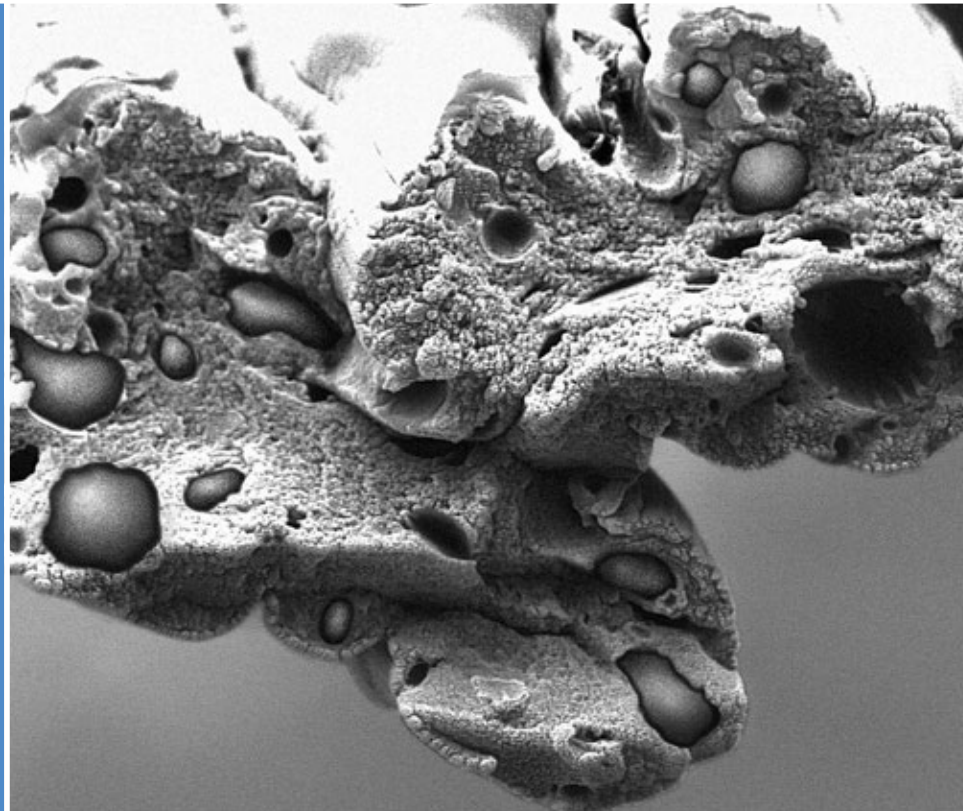
The speciality fibre Danufil® QR is tailor-made for use in disinfectant wipes. Due to their negative charge, standard viscose fibres bind up to 80% of the so-called "quats" (quaternary ammonium compounds), widely used disinfectant substances, hindering their actual purpose. The positively charged Danufil® QR resolves the issue by reducing this undesired effect to less than 10%. Finally, disinfectant wipes can benefit from properties like softness or excellent fluid handling, which make viscose fibres a sought after raw material for other hygiene, medical or food applications.



Outlast® Viscose Fibre

The First Viscose Fibre with
Outlast® Technology

This fibre offers all of the benefits of viscose such as soft, fine feel – similar to cotton or silk, the ability to absorb moisture and excellent hygienic properties while also providing Outlast®'s temperature-buffering capability for extreme comfort. Outlast® fibres contain patented micro-encapsulated phase-change materials, 'Thermocules', which store, absorb and release heat. This viscose fibres are perfectly suited for various clothing applications as well as for beadspreads, blankets or mattress covers.

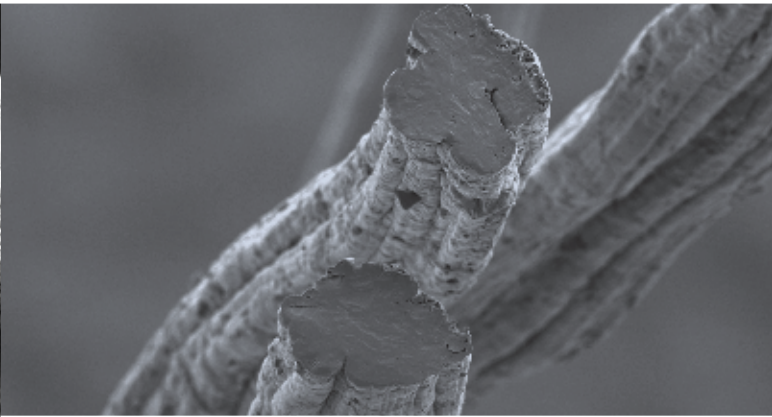


Poseidon

The Ion Exchange Fibre

Poseidon is a viscose fibre with an incorporated ion exchange functionality which can be fully regenerated. In comparison with commercially available ion exchange resins, Poseidon offers a much higher active surface area, permitting an increased rate of ion exchange.

Based on the ion exchange principle, other active components may be docked onto the fibre: silver or copper ions are just two examples.



Electra

The Static Dissipative Viscose Fibre

Our static dissipative viscose fibre maintains the typical properties of all viscose fibres – for example its high absorbency – as the electrically conductive additives are incorporated into the fibre's core. This black fibre can be used in workwear to protect against static discharges and for the protection of electronic components and personnel. When used in moisture detection, for example in patient care end uses, it offers benefits in sensor systems as a result of its high sensitivity.



INTRINSIC
FUNCTIONALITY



WEARER COMFORT



INTRINSIC
FUNCTIONALITY



SAFETY IN USE



INTRINSIC
FUNCTIONALITY



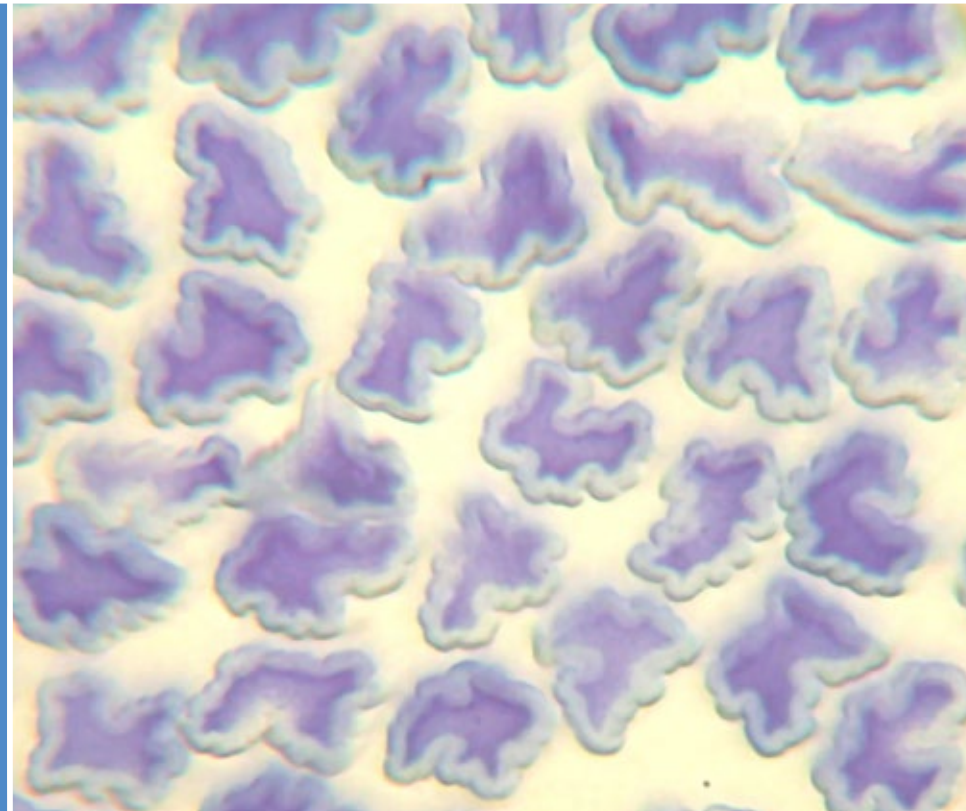
STATIC
DISSIPATIVE



Verdi

Anionic Viscose Fibre with a Defined Core-Sheath Structure

The anionic modification of Verdi fibres results in an increased absorbency of water vapour: a clear benefit for wearer comfort and moisture management in textiles. The non-sticking fibre surface qualifies Verdi for the use in wound-dressings and other medical applications. Verdi also exhibits self-extinguishing properties.



Innovation is the key to a successful future – for us and for our customers! Our R&D team is focused on continuously improving our existing products and developing new fibres to meet our customer's specific needs. Our aim is to develop fibres that are genuinely tailor-made and deliver value-added solutions. An understanding of our individual customer's products and an appreciation of our customer's business is crucial for our work. Our understanding is based on customer dialogue and proven on pilot plants, which allow us to produce a range of products incorporating our new fibres – a service which is available for our customers, too. Feel free to contact us!

INTRINSIC
FUNCTIONALITY



WEARER COMFORT



ABSORBENCY



The Nature of Viscose

Viscose fibres are made of 100% natural cellulose. They are therefore fully biodegradable and deliver sustainable solutions. In the paper industry they are fully compatible with the most commonly used raw material and can therefore be easily incorporated in the papermaking process. At the same time, they offer an environmentally sound alternative to synthetic additives. Our new fibre developments are the basis for innovative tailor-made and value added solutions meeting individual requirements of our customers in a diverse range of applications.



Our Contribution to Sustainability



The protection of the environment is an integral part of our production processes. We recycle auxiliary raw materials, employ high-tech purification plants to cleanse our waste water and operate an economic power plant that works on the environmentally friendly co-generation principle, thus generating both electricity and steam for the production processes. As a result of the multiple use of primary energy, efficiency levels of over 90% can be achieved which lie far above the efficiency levels of conventional power plants. Every aspect of our production is permanently monitored and we continuously seek ways to use our resources and raw materials in even more efficient ways.



Company Policy

Who we are

We are a medium-sized fibre manufacturer in Germany. It is our vision to be the world's leading producer of viscose speciality fibres for diversified applications and markets. Our aims and strategies are derived from this vision.

Values

We do business solely based on the fundamental economical and ethical values of our society. We are aware of the responsibility that we bear for the environment and for compliance with human rights and we act correspondingly. We are innovative, fast, flexible and efficient. We use state-of-the-art technology and employ resources in a responsible way.

Employees

We give top priority to the safety of our employees and of our processes. Our employees have a significant stake in our success. Their know-how, their motivation and targeted training are the cornerstones for this.

Business Partners

Our success is the success of our customers. This success is built on stable and long-term partnerships. We offer tailor-made products as solutions for specific requirements of our customers. In this way we deliver optimum added value for each industry sector. High standards of quality and reliability form the basis for sustainable cooperation with customers and suppliers.





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