



New Functional Fibres



## Innovation and Competence

For us, innovation is the key to a successful future. Our dynamic R&D team is focussed on continuously improving our products and meeting our customers' specific needs.

An understanding of our customer's products and an appreciation of our customer's business is crucial for our work. Only this allows us to offer fibres that are genuinely tailor-made and meet the needs of our customers as closely as possible. To achieve this we use pilot plants which allow us to produce – on a small scale – a range of products which incorporate our new fibres.

For paper applications we run a pilot machine with inclined wire technology and are therefore able to test our fibres on site. We are pleased to offer you the possibility of testing your product with our fibres in our technical centre. Feel free to contact us!

## Natural Advantage

Viscose fibres are made of 100% natural cellulose, the same basic raw material used in the paper industry. Viscose fibres can therefore be easily incorporated in the papermaking process. At the same time, viscose fibres are fully biodegradable and hence offer an environmentally sound alternative to other additives.

Our new fibre developments are the basis for innovative tailor-made solutions for our customers' individual requirements.



## Extra Absorbent Viscose Speciality Fibres

In 2009 we developed and launched four viscose speciality fibres with new functional properties. These new fibres, known under their development names Verdi, Bramante, Dante and Bellini, show ultra-high absorbency levels, self-bonding behaviour, a high dispersability in water, a gel-effect and self-extinguishing properties. The potential applications for our new fibre developments are many and diverse – from medical and hygiene products through textiles for apparel to filters or speciality papers. Coagulating wound dressings, highly absorbent blotting papers or extra tear-resistant banknotes as well as tea bags are just a few of numerous products which derive their typical properties from our viscose specialities.

Special effects	Bramante	Verdi	Dante	Bellini
High and ultra high absorbency	✓	✓	✓	✓
High dispersability in water		✓	✓	
Gel effect		✓	✓	
Self-extinguishing		✓	✓	
Self-bonding				✓

The structure of the viscose fibre Verdi has been optimised to deliver a higher level of intrinsic absorbency. Linked to this are a gel effect on the fibre surface, self-extinguishing properties and an excellent dispersability in water. The viscose fibre Bramante is characterised by its segmented hollow structure which delivers a considerably higher absorbency level relative to a standard viscose fibre.

The viscose fibre Dante proves that a combination of properties can deliver more than the sum of two

parts. Combining the properties of Verdi and Bramante fibres, Dante's liquid absorption capacity is four times that of a standard viscose fibre. A surface gel effect, high dispersability and self-extinguishing properties are also inherent in the fibre.

Due to the special structure of the Bellini fibre and its extreme flat cross section and very even surface, we successfully created a fibre with a very high self-bonding capacity – a fibre ideally suited for paper and wetlaid applications.



## Deep-Dye – the Fibre for More (or Less) Colour

Deep-Dye is a chemically modified viscose speciality fibre with a dye absorption capacity up to 40 times higher than standard viscose fibres. Originally developed to optimise the dyeing process of textiles made out of viscose and polyester, we discovered a wide range of possible applications – in all areas which require fast and effective dye absorption.

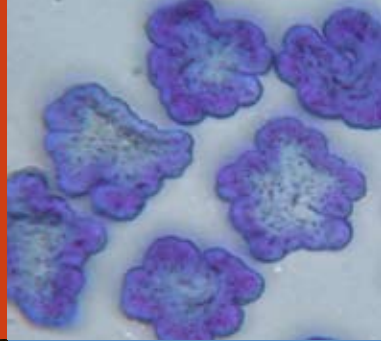
These highly specialised viscose fibres can be processed to make papers and nonwovens which can easily be adapted to any form required – and can be used, for example, in filtration cartridges for the decolouration of the waste water from dyehouses.





## Poseidon – the Ion Exchange Fibre

Poseidon is a viscose speciality fibre with ion exchanging properties. The fibres are loaded with positive or negative ions and release them in a controlled way. The advantages of Poseidon are clear: Poseidon fibres may easily be incorporated in papers or nonwovens (in contrast to ion exchange granulates) and these used in filtration cartridges of any shape. Due to the very small size of the active particles and the high number of fine and short viscose fibres in the paper a very large active surface is obtained and with this, an excellent transfer quota.



Poseidon can be used for water softening, for example in tea bags or coffee pads, or for the filtration of heavy metals for recycling purposes.

Poseidon can remove destructive acids from all kinds of liquids and it can be used to deliver an antimicrobial effect in a product by loading the fibres with metal ions such as silver or copper.



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## Company Overview

Kelheim Fibres GmbH is one of the leading producers of viscose speciality fibres. Innovative products, flexible technologies and strong customer orientation as well as active environmental protection are the basis for our company's success.

From our production plant and headquarters which are located in Kelheim in Southern Germany, our products are to be found worldwide. Our viscose fibres are used in widely diverse applications ranging from fashion, hygiene and medical products through to the paper and wet laid industry.