

ARBOCEL®

Functional Fibre Additives

out of Plant-based Raw Materials



**Innovative
Fibre-based Solutions
for the Successful
Paper and Board Industry**

J. RETTENMAIER USA LP



**Fibers designed
by Nature**

A Member of the JRS Group

Natural Additives for the Paper and Board Industry.

Functional additives give modern paper and board products consistently new characteristics and production improvements. With our functional ARBOCEL® special fibres, we offer the industry the most effective alternatives from nature's versatile building set.

Our base of raw materials comes from the heart of nature. We, the **JRS – J. RETTENMAIER & SÖHNE** – company group, have committed ourselves fully to the development, processing and optimization of high-quality, natural fibrous materials from renewable, plant-based raw materials.

In our activities, we try to live up to a high ecological principle – in the selection of raw materials and the most environmentally friendly manufacturing processes possible. The objective of our work is ecological, economical and functional sustainability.

As a result of many trendsetting technical in-house developments, continuous research and development, we were able during the course of several decades to gain a comprehensive know-how in the area of the paper and board industry.

State-of-the-art manufacturing facilities and a perfected quality management system ensure efficiency, maximum operational safety and reliability, even in the largest production series.



ARBOCEL® is manufactured according to the **strictest quality criteria.**

Certifications:

PEFC, ISO 9001, GMP etc.



**Innovative, Sustainable, Highly Functional –
Based on Valuable, Renewable Raw Materials.**



Effective Problem Solutions for the Paper and Board industry.

An added value partner with a system:

J. RETTENMAIER & SÖHNE GMBH+CO.KG pursues an integrated approach in its successful corporate philosophy, centered on the customer and his needs.

As a direct point of contact, you can find our **product and application specialists for paper and board** in the business unit Chemistry.

Our **paper laboratory** supports you with all your questions regarding functionality, application, formula finding and product development.

At the same time, we support you as a **partner in technological tasks**. We offer advice and support in issues dealing with **dosing** and **materials handling**, for example, and – together with our partner networks – offer efficient solutions that work in practice.

Our **sales, distribution & service network with world-wide presence** ensures **smooth logistics, certain availability** and **competent technical support** – around the world.



Profit from the service and added value of a reliable and competent technology and system partner!





Functionality from Nature's Building Set.



Solutions that Rely on Plant-based Functional Materials and Comprehensive Technological Know-how.

Universal geniuses from natural, renewable raw materials.

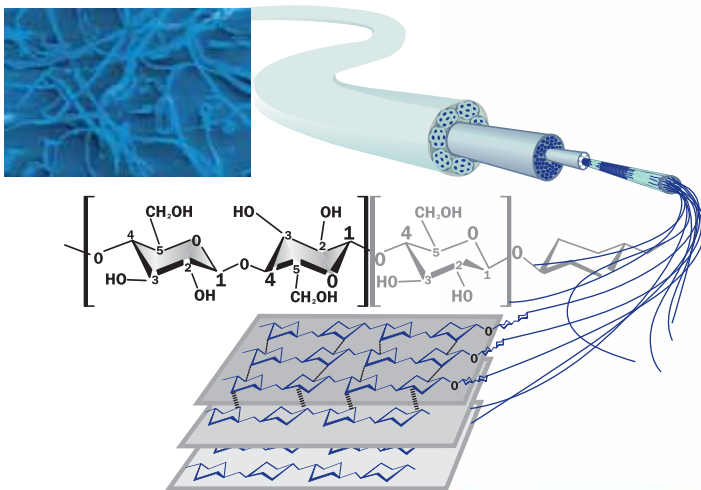
Versatile Functionality from Nature's Building Set:

Plant-based fibrous materials offer numerous industrial-technical useful functions.

The strength of JRS lies in opening up these potentials for the most varied application fields and in making them usable on a large scale.

Behind this are a whole series of physical-chemical properties and structures of plant-based raw materials that we adapt to the most varied tasks and functions through various disintegration and processing methods.

Benefit from our know-how!



Consulting, development and technological application support in own laboratory facilities.





**Highly Efficient and
Multifunctional.**



High Functionality: ARBOCEL® is an Innovative and Economical Natural Raw Cellulose Fibre.

Functional advantages of ARBOCEL®:

- **Cost reduction** through **savings in energy** and **raw materials**.
- **Improved drainage**.
- **Machine speed** and **productivity increase**.
- **Increase** of **thickness** and **specific weight**.
- **Formation** and **cross-direction profile improvement**.

Better for the environment:

Since **ARBOCEL®** is a **100% natural product**, its use has no adverse effects on the waste and sewage resulting from production.



ARBOCEL®
Functional Fibre Additives



**Bulk and Speed Increase
due to Better Dewatering.**



Effective Problem Solutions – that Always Work in the Right Place.

What is behind the idea of ARBOCEL^{PLUS}®?

The paper industry uses many different kinds of additives. These chemicals have many functions and the most varied application fields.

The main problems of all additives used in paper technology are: distribution, retention and interactions.

Our technological approach:

Fixation of additives to **ARBOCEL**® – fibres as carrier. This is done outside of the paper production. The addition of these modified fibres is done in stock preparation (wet end).

Advantages of ARBOCEL^{PLUS}®?

- **Very good retention.**
- **Can be used** throughout the entire, customary **pH** and **temperature range**.
- **No influence** on the **zeta potential**.
- **Long shelf life/No danger of frost.**

A **successful example** of this is our fibre-bound **sizing agent ARBOCEL^{PLUS} SA**.



ARBOCEL[®] PLUS
Fibre-Bound Additives



e.g. **ARBOCEL[®] PLUS SA**
Fibre-Bound Sizing Agent

Fibre-bound Paper Additives.



Leading Through Innovation: An Entirely New Dimension in Materials and Functionalities.

THE INNOVATION in the micro cellulose field:

The enormous cost pressure and existing quality demands made on coated paper gave us the impetus for developing a **novel coating additive** based on micro cellulose.

ARBOCEL® UFC is the multifunctional **ultra-fine cellulose**. Special, newly developed production processes allow the manufacturing of the so far **smallest cellulose fibres** that can be produced on an industrial scale.

Your advantages when using **ARBOCEL® UFC** in the coating formula:

- **Savings of binders and co-binders** through **smaller penetration** of the **coating color** into the base paper.
- **Reduction of drying costs** through **higher solids content**.
- **Better coating holdout.**
- **Optimized printability.**

Many **other highly interesting functional approaches** are applied in our current development projects – we will gladly inform you in person about possibilities and applications for your specific task field.



ARBOCEL® UFC
Ultra-Fine Cellulose



**'Sharper Image' and a Lot More
for the Paper and Board Coating.**



Entering New Technological Dimensions – with JRS as Your Competent Technology and Service Partner.

Benefit from the know-how and experience of a qualified system partner !

As a competent system and development partner, JRS is ready to support you in joint projects dealing with all aspects of functional fibres and their use in the paper and board industry.

In all of this, take advantage of our technological potential and long practical experience in the most varied application fields.

- JRS provides advice in **dosing** and **handling issues**.
- JRS carries out the **basic lab trials**.
- JRS supports you during **reformulation**.
- JRS is your competent point of contact in **product optimizations** and **new developments**.

Challenge us!

- We see our **customers as long-term partners**.
- The **strength** of JRS is the **application-oriented** innovation – together with our customers.
- Support in the preparation of an optimized **dosing concept**. A lot of experience owing to having built **own plants, silos** and **pipings**.





Hand in Hand to Successful Innovations.



JRS – Your Strong, Reliable Industry Partner – All Around the Globe!

- Highest quality standards with sophisticated QM
- Essential certification (ISO, GMP, PEFC, etc)
- Mature know-how
- Own research and application development
- Over 130 years serving customers
- Flexible partner
- Worldwide presence
- Over 1,800 employees
- 21 production plants in Germany, Finland, Hungary, UK, USA, Mexico and India
- Over 250 experts worldwide
- Reliable industry-system partnership with diverse resource network

Global logistics

With JRS, you have a competent, experienced logistic partner with globally available sales and delivery networks. JRS's own sales organisations and offices with their logistic centres reliably manage and support your projects – all around the world.

Our technical service team will be happy to provide you with detailed information. We look forward to your request!



JRS company headquarters and major production centre for technical fibre applications in Rosenberg, Germany.



JRS Plant Schoolcraft, Michigan USA

● JRS Headquarters

● JRS Offices
Asia/Pacific, Austria, Benelux, China, Czech Republic, England, Finland, France, Italy, Japan, Latin America, Mexico, Poland, Russia, Spain, USA



21 production plants

in Germany, Finland, Hungary, UK, USA, Mexico, India

Natural products in consistently high quality for industrial production.

ARBOCEL® fibre products are characterised by the highest quality and consistent profile characteristics. As such and as a result of the natural raw materials, high performance reliability and maximum functionality, especially in bulk production, are guaranteed.

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