## INNOVATIVE SOLUTIONS FOR CONCRETE

Rhein-Chemotechnik GmbH develops innovative concrete admixtures that are specifically tailored to the requirements of alternative and alkali-activated binders. We cooperate closely with our customers and the construction industry to create customis ed solutions for each individual project. Our products help improve the durability and performance of concrete, especially in demanding applications. With a clear focus on sustainability, we support the development of future-oriented building materials.

**FOR BETTER CONCRETE**

# ALTERNATIVE BINDERS IN THE CONCRETE INDUSTRY: BECAUSE IT'S SUSTAINABILITY THAT COUNTS

Alternative binders and concrete admixtures make it possible to create environmentally friendly concrete solutions with high strength and durability. Admixtures improve processing and quality, even in complex applications. They promote the use of by-products and contribute to the reduction of $CO_2$ emissions. Together they create sustainable and high-performance options for the modern construction industry.


## CONTACT

Rhein-Chemotechnik GmbH
Gewerbepark Siebenmorgen 8 · 53547 Breitscheid
Tel. +49 2638 | 9317C
E-Mail: info@rhein-chemotechnik.com · www.rhein-chemotechnik.com



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# CONCRETE ADMIXTURES FOR ALTERNATIVE BINDERS

www.rhein-chemotechnik.com

## RHEIN-CHEMOTECHNIK GMBH

We have been developing concrete admixtures and surface protection products since 1966 and are one of the leading suppliers in Europe. Our extensive experience and vast expertise over the years make us a reliable partner for concrete processing companies.

Trust in our expertise, which combines innovation, quality and service!

# WE GIVE OUR ALL TO ACHIEVE BETTER CONCRETE

## TREAD NEW PATHS

The challenges facing the construction industry are clear: reducing $CO_2$ emissions and effective use of resources at the same time as increasing material performance. Alternative and alkali-activated binders in combination with modern concrete admixtures offer a future-oriented solution for sustainable construction: high-performance, durable and environmentally friendly.

Concrete admixtures for use with alternative and alkali-activated binders from Rhein-Chemotechnik GmbH guarantee maximum efficiency and quality in application.

## ALTERNATIVE BINDERS SUSTAINABILITY: A CONCRETE INDUSTRY FOCUS

*"Alternative binders significantly reduce $CO_2$ emissions and enable sustainable, high-performance concrete solutions. Resource-saving technologies also significantly reduce the ecological footprint of the construction industry."*

## OUR SERVICE BOOSTS YOUR SUCCESS

### APPLICATION AND CONCRETE TECHNOLOGY SERVICES

Our specialists support you from the initial concept to the final ready-to-sell product, selecting the optimal products from our range to meet your requirements.

### PRODUCT DEVELOPMENT AND CUSTOMISATION

So you want to highlight the unique features of your concrete products? At Rhein-Chemotechnik GmbH our experts are here to help you. We can develop individual customer solutions.

### WE DELIVER OUR PRODUCTS PERSONALLY

We use our own fleet to guarantee reliable delivery in Germany, Belgium, Luxembourg, Switzerland and the Netherlands.

## ALTERNATIVE BINDERS

Alternative binders are materials that either fully or partially replace traditional Portland cement and are more sustainable because they cause fewer $CO_2$ emissions and utilise by-products or waste. They can be chemically, mineralogically, or industrially modified.

**BENEFITS:**

- Environmentally friendly with low $CO_2$ emissions and resource conservation
- Improved material properties with chemical resistance and greater durability

## ALKALI-ACTIVATED BINDERS | GEOPOLYMERS

Alkali-activated binders (AAB) and geopolymers (GP) are innovative materials used as an alternative to conventional Portland cement in concrete production. They are based on the activation of silicon and aluminium-containing raw materials such as fly ash, blast furnace slag (AAB) or metakaolin (GP) by silicate-rich strongly alkaline solutions.

**BENEFITS:**

- Environmentally friendly with low $CO_2$ emissions and resource conservation
- High performance with partially improved durability

## CHALLENGES FOR CONCRETE ADMIXTURES

Concrete admixtures need to provide the following performance in conjunction with alternative binders and alkali-activated binders (AAB):

**COMPATIBILITY:**
The admixtures must be chemically and physically compatible with the new binder systems.

**ADAPTABILITY:**
Admixtures must be able to adapt to changing hydration and polymerisation processes.

**IMPROVED PROCESSING:**
Superplasticisers and stabilisers must optimise the workability of alternative concrete mixes.

**STRENGTH DEVELOPMENT:**
Admixtures support and accelerate strength development when using alternative binders.

**IMPROVED DURABILITY:**
Admixtures should be specifically tailored to the durability requirements of alternative binder systems, such as increasing freeze/thaw resistance or chemical resistance.