



Building Chemical Solutions for the Precast Concrete Industry

EXPERTISE
PRECAST



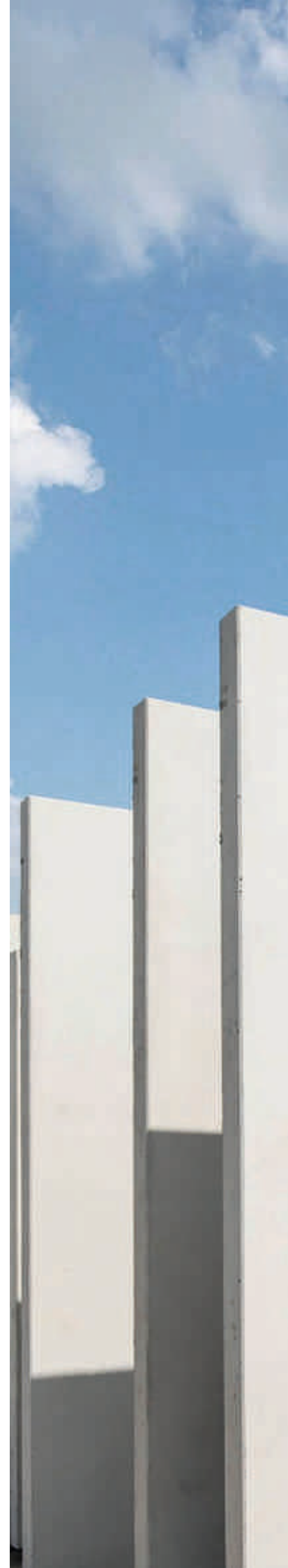
Concrete is Our Passion

High resistance and strength, immaculate appearance, resistance to aggressive media and optimal application properties, even in the case of intricate and complex component designs – we offer solutions for every requirement.

For decades, MC-Bauchemie has been developing innovative system solutions for the optimisation of fresh and hardened concrete's characteristics in the production of precast concrete elements. Supplemented by a wide range of Concrete Cosmetic products, curing agents and high-performance assembly mortars, we offer our partners a complete package for the entire process and performance chain at a modern precast concrete production.

With an extensive service and technical competence, we adjust our solutions to your requirements and raw materials, as well as to your production processes and dosing technology – offering extensive benefits for your manufacturing efficiency and your customers:

- Shorter moulding cycles thanks to increased early strength
- Improvement in processing properties
- High-quality fair-faced concrete surfaces
- Global on-site service provided by experts such as concrete technologists and application technicians





Our solutions for your success

High-performance plasticizers and superplasticizers	4-5
Additives for high-performance and special concrete	6-7
Concrete admixtures	8-9
Concrete release agents	10-11
Concrete cosmetics and concrete retouch	12-13
Special mortars and grouts	14-15
Concrete curing	16-17
Hydrophobic impregnation	18-19
Care and Cleaning	20-21
Service and support	22-23

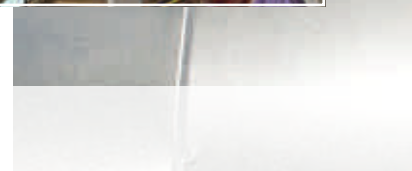
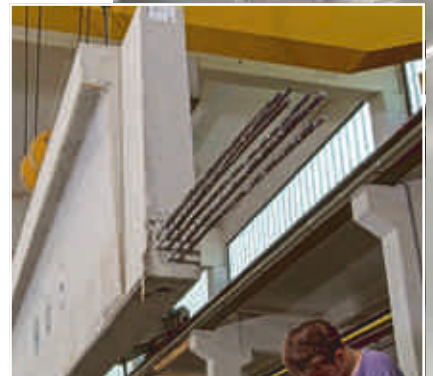
Concrete Optimisation in Every Aspect

For more than 20 years, MC-Bauchemie has been carrying out research in the field of polycarboxylate ethers, creating its own PCE polymer raw materials for high-performance superplasticizers. One result of this ongoing development effort is the product line MC-PowerFlow. The production in our own highly modern polymerisation plant provides us with the ability to develop and produce customised solutions to meet your specific requirements.

A distinguishing feature of the superplasticizers line MC-PowerFlow is the huge performance capability regarding main requirements relevant to precast concrete production. By significantly reducing the amount of water required, this line allows the achievement of high-strength concrete, specified through low water contents and low w/c ratios.

High flowability without compromising hardened concrete characteristics or surface quality

MC-PowerFlow high-performance superplasticizers maximise early strength by reducing the amount of water in the mixture, thus also accelerating the demoulding cycles. The short period in the formwork provides you with a real time advantage, benefiting the cost-efficiency of your entire production process. High consistency in the fresh concrete – without compromising early strength and surface quality – makes MC-PowerFlow the ideal flexible solution for precast concrete elements designed to meet special requirements.





In order to optimally cover the broad variety of component requirements, raw materials and formulations encountered in practice, MC offers two major high-performance superplasticizer ranges.

The product range **MC-PowerFlow 1100** offers not only the benefits mentioned, but also an improvement in concrete cohesion. This property has a particularly positive effect in the case of self-compacting concrete or highly flowable concrete with low content of fines.

Alternatively, the product range **MC-PowerFlow 3100** reduces the stickiness of the concrete in cases where faster concrete flow is required.

Maximum Resistance for Concrete Plus Additional Benefits

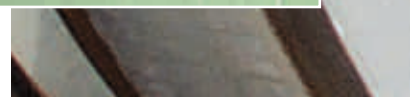
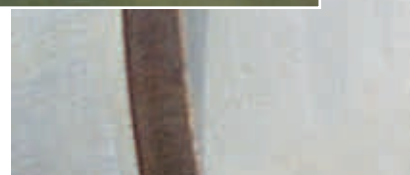
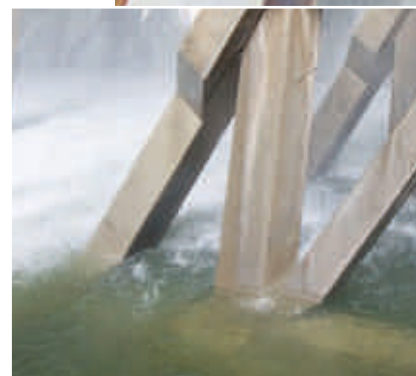
The use of Centrilit additives produces results that go far beyond the concrete requirements specified in relevant standards. Performance parameters improved include flexural and compressive strength, density and resistance against harmful substances, thus ensuring concrete elements with improved durability. Additional benefits consist of surface quality and colouring of the concrete, as well as a cost-efficient manufacturing process. These advantages open up new possibilities for your positioning among architects and contractors.

New horizons for high-performance concrete

The concrete additive **Centrilit NC** is a special nanocrystalliser, developed by MC. It significantly improves the properties that are key in determining the capabilities and durability of high-performance concrete – enabling the limits of chemical resistance, acid resistance and the strength parameters of special concrete to be redefined.

Centrilit NC is particularly suitable for projects requiring both durability and aesthetics. With Centrilit NC, brighter concrete surfaces can be produced, than with conventional additives – especially useful in applications involving the use of white cement or coloured concrete.

The high flexural and compressive strength values achieved allow numerous creative possibilities for your customers. Intricate designs or thin-walled façade elements are just two examples of the range of applications to which this kind of high-performance concrete can be put in modern architecture.





Among all additives, the classic one for high-performance concrete

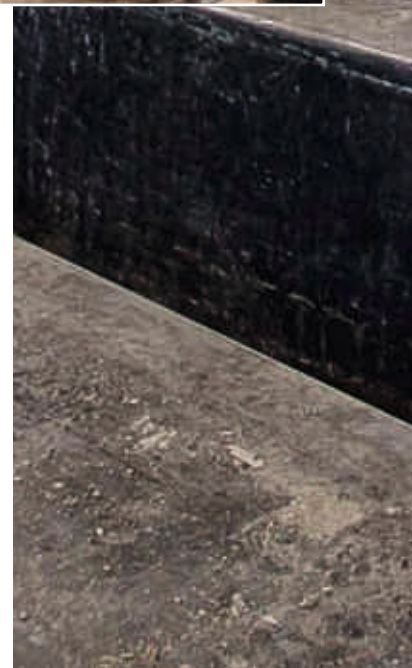
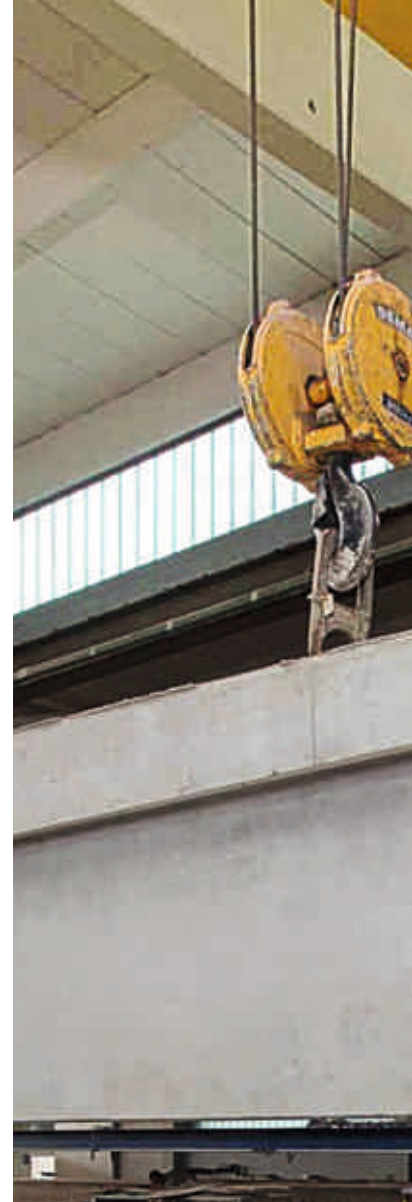
Thanks to the microfine, ideally graduated grain structure of **Centrilit Fume SX**, the concrete's inner density is optimised right down to the micro range. With its pozzolanic properties, it strengthens the interface between the cementitious matrix and the aggregates, resulting in a high level of compressive strength. Centrilit Fume SX is supplied as a suspension and is therefore very easy to be dosed. Even the strict requirements imposed by, for example, Germany's ZTV-ING (additional technical contract conditions and guidelines for engineering structures) are fulfilled.

Reliable Solutions for All Technologically Demanding Concrete Specifications

In addition to its high-performance superplasticizers and additives for special requirements, MC also offers you a wide spectrum of concrete admixtures to ensure you get exactly the right solutions, enabling you to control, with precision, the properties of your fresh and hardened concrete.

For each functional group, MC has developed special product lines featuring different performance profiles. Regarding individual requirements for concrete properties as well as manufacturing processes or available raw materials, MC offers you an optimal solution for every task.

Functional groups	Product lines
Plasticizers and superplasticizers	Centrament plasticizers Muraplast superplasticizers
Hardening accelerators	Centrament Rapid
Air entraining agents	Centrament Air
Stabilizers	Centrament Stabi
Viscosity modifiers	Centrament Stabi VMA
Grouting aids	MC-Einpresshilfe







Release, Protect and Care

Ortolan enables simple and reliable separation between formwork and concrete. As result you achieve a first-class fair-faced concrete and a concrete with reduced pores and blowholes. At the same time, the agent has no effect on the hardening or colouring of your concrete. It serves to protect and maintain the formwork, ensuring concrete with a high quality surface!

Classic concrete release agents

Ortolan Classic has a universal application both on site and in the precast concrete factory. The liquid concrete release agents in this line are based on a chemical-physical effect. The optimum combination of low viscosity base oils and highly effective release substances provide convincing results.

Tailor-made concrete release agents

You can meet particularly high requirements regarding the appearance of your concrete with **Ortolan Extra**. We provide liquid release agents offering increased corrosion protection, predominantly for smooth steel formworks. For complex detailed elements, simply use the paste-like wax Ortolan Extra 791.

High-performance concrete release agents

Ortolan Premium are high-performance process oils with special additives for the production of high-quality fair-faced concrete surfaces up to class SB 4. They offer a combination of mild odour with corrosion-inhibiting for a premium look on your finished elements.

Biodegradable concrete release agents

Ortolan Bio offers an excellent solution for environmentally challenging productions – including in the manufacture of high-quality fair-faced concrete surfaces. In addition to its environmental advantages, the agents in this line exhibit outstanding separating efficiency, good formwork maintenance and a particularly mild odour. The high-purity base oils used also ensure fast biodegradability. Ortolan 755 actually carries the “Blue Angel” environmental label.



Concrete Cosmetics – Face-Lift for Concrete Surfaces

Make broken edges, honey combs, pores, voids and colour differences simply disappear. Thanks to optimum adhesion to the concrete substrate, the concrete cosmetic products from MC offer particularly good application properties – including for overhead work. The unique range of colours in our fine and super fine fillers also ensures a high degree of creative freedom.

Reprofiling of surfaces not subject to mechanical loading

Nafuquick concrete fillers are designed to give a rapid surface finish. For surface smoothing and sealing of porosities, voids and precast element joints, Nafuquick product range is the right choice for you.

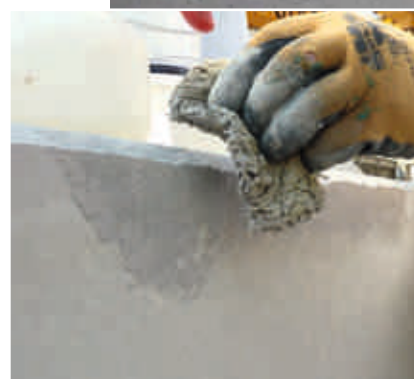
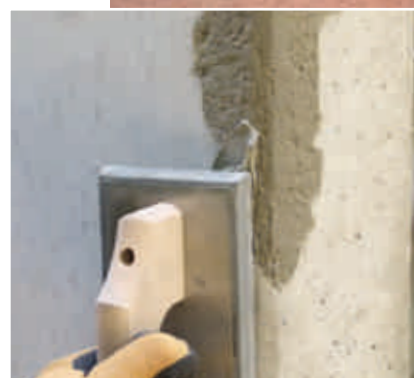
Emcefix concrete cosmetic system offers the highest quality combined with an extensive panoply of colours. The perfectly matching bonding agents, coarse fillers, fine and superfine fillers enable concrete cosmetic in all possible forms. To get the perfect shade of grey, you can mix together the cosmetic fillers in any ratio you require or use special pigments for colour matching.

Reprofiling of surfaces subject to mechanical loading

For these applications use the two-component, fast-hardening **Reparoxyd** polymer mortars, specifically formulated for the repair of mechanically loaded concrete surfaces. Whether for the repair of broken corners and edges, fixing of transport anchors or filling anchor holes – with Reparoxyd, you have a fast and uncomplicated solution at your disposal. These polymer mortars can be mixed and applied down to temperatures of -10 °C and exhibit a high level of wear resistance.

Concrete retouching for a fair-faced effect

Unfortunately, errors in concrete's look can never be completely ruled out. Even repaired surfaces may differ from the rest of the element's surfaces, despite all efforts to achieve a perfectly matched colour. Through concrete retouch with **Repacryl** you can repair concrete surfaces, with or without previous filler application, in order to create a perfect fair-faced concrete look!





Permanently Stable Connections

Special mortars and grouting products from MC ensure a durable connection of precast concrete elements. Take advantage of a wide range of products characterised by application versatility, easy handling and high quality.

Stable adhesion for connections

The two-component epoxy resin filler **SX 481 E** not only bonds quickly and safely concrete elements to one another, but is also the optimal adhesion solution for a large number of other materials such as steel, plastics or natural stone. Its easy processing and high flexural strength makes it the ideal adhesive for the installation of concrete pipes, space bodies, insulation boards or inlet shafts. You can also use SX 481 E filler for the reprofiling of broken edges and unevennesses – including overhead. Its rapid compressive strength development supports optimised manufacturing and assembly processes.

Grouting and load transmission

Thanks to their defined grain sizes, the grouting concrete and grouting mortars of **Emcekrete 60** product range are suitable for grouting layer thicknesses up to 200 mm. They are formulated for the force locking grouting of ceiling and wall connections, steel elements embedded in concrete and also rigid joints between precast concrete elements. The grouting or chocking of machinery, bridge bearings, crane rails or other steel structures can also be safely carried out using these highly fluid Emcekrete 60 products.

Underfilling and closing

Whenever wall stop ends and similar components embedded in ceilings and walls have to be underfilled or rigid joints between precast concrete elements need to be closed, there is a suitable **Emcekrete UFM** product – please consider the grouting layer thickness when choosing the right product. Its practice-oriented consistency ensures optimum stability during placement.





Evaporation Protection With Quality Gain

High compressive strength alone does not guarantee that your concrete will exhibit sufficient durability. Another major variable is its density (according to EN 206-1) because, with a lower porosity and permeability, resistance to external influences is increased. Only through early application of a curing agent on fresh concrete surfaces, can you achieve the desired level of durability in your precast concrete elements.

Curing

Emcoril AC and **Emcoril S** are ready-to-use curing agents. They form a dense, continuous film to ensure optimum hydration processes. The young concrete is also protected against aggressive environmental influences during the first few months of exposure. Both products are applied in just one step with standard spray equipment and appropriate flat nozzles. Application by brushing or rolling is also possible.



Concrete curing

Emcoril AC

Evaporation protection for interior applications

- Can be covered by conventional one-component coatings
- Solvent free
- Acrylate based

Emcoril S

Evaporation protection for internal and external applications

- High barrier coefficient
- Solvent free
- Paraffin based

Smoothing aid

With **Emcoril Floor Top** you can ensure that the surfaces of your precast concrete elements are even and smooth. With the special polymer dispersion you can create a denser concrete structure through smoothing, consequently you achieve a look that is more even as well as protection against chemical attack.



Water Repellent, Invisible Concrete Protection

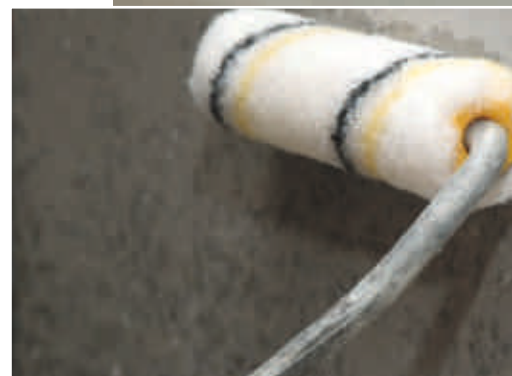
Nisiwa hydrophobic agents serve to protect your exterior concrete elements. They prevent water absorption by your precast concrete elements, thus reducing the risk of frost damage and minimising the likelihood of algae or moss growth.

Environmentally compatible hydrophobic cream

Nisiwa C is a solvent-free hydrophobic agent that leaves the natural appearance of the concrete unaffected. This special high-quality cream increases the freeze-thaw resistance. Its outstanding penetration capability (≥ 10 mm, in accordance with EN 1504-2), low volatility and high resistance to alkalis ensure deep-pore protection. Your benefit: the concrete is permanently less prone to chloride and water absorption and remains open to vapour diffusion. The cream is applied in just one step using a roller.

Liquid hydrophobic agent

Nisiwa SN protects your concrete against efflorescence and contamination, as well as from damage caused by frost and freeze-thaw or de-icing salts. This water-repellent protective agent exhibits good penetration, takes effect immediately after application and dries tack-free. It can be applied by spraying or rolling methods.





Effective Cleaning

Whether your problem is rust or oil stains, efflorescence, cement residues or contaminated construction equipment, MC offers effective solutions for the reliable removal of stubborn residues.

Rust stain removal

MC-Rost Ex effectively removes rust stains both from concrete and construction equipment. The agent is ready to use and is characterised by its short interaction time.

Oil stain removal

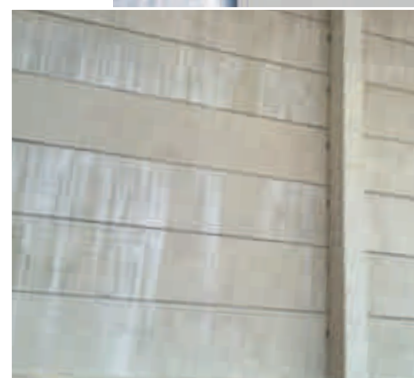
MC-Entöler removes oil and grease stains from concrete surfaces. The product is ready to use and can be washed off with water after application.

Efflorescence and cement residues removal

Efflorescence, cement residues like mortar and concrete spatters on concrete surfaces can all be removed with **Donnitil 3X**. Simply mix this powder concentrate with water and it is ready to use.

Cleaning of construction equipment

Donnitil BGR 81 has been especially formulated to remove hydraulic binders, lime and other residues from construction equipment. Depending on the level of contamination, you can use this liquid cleaner directly or diluted with water.





Our Service Goes Beyond Any Standard

Our support for precast concrete manufacturers – from initial problem analysis through to production implementation

As a developer and manufacturer of highly effective product systems for precast concrete production, we are able to offer you far more than just the security of a reliable product solution.

Our high service quality is based on a dense network of laboratories and application technicians and a permanent know-how transfer between our concrete technologists and our highly qualified local employees. That means we are able to quickly assist our partners around the world in the preparation of special concrete recipes. The optimised selection of: appropriate concrete admixtures to achieve the desired characteristics in the hardened concrete, manufacturing processes, regional raw materials and application of the appropriate dosing technology, will provide you with quality benefits. So take advantage of the creative scope available to you through the use of our innovative, high-performance products.

With our production support and individual user training courses, we provide our partners with additional security. Smooth production processes and reliable execution of surface treatments and assembly work result in optimum precast concrete quality, assuring the satisfaction of your customers.

Innovation in building chemicals. With you every step of the way.





**Benefits of the personal MC consultancy and support service:
Increased precast concrete quality through an optimal
combination of recipe, dosage and application technologies**

- High quality fair-faced concrete
- High density and durability
- High wear resistance
- High resistance to chemical attack
- High freeze-thaw resistance

MC-Bauchemie Müller GmbH & Co. KG
Concrete Industry
Am Kruppwald 1-8
46238 Bottrop, Germany

Phone: +49 2041 101-50
Fax: +49 2041 101-588

CI@mc-bauchemie.com
www.mc-bauchemie.com



BE SURE. BUILD SURE.

Contact details

