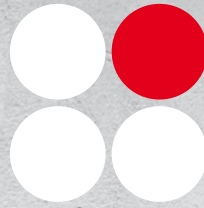


**Ha-Be**

*Making good concrete better*



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# HA-BE BETONCHEMIE

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**Who we are and what we do**

## HA-BE BETONCHEMIE

We manufacture concrete admixtures, surface protection systems and concrete colours for the international concrete industry. We are working at more than 20 different locations worldwide to vitalise the slogan „Making Good Concrete Better“. Our high-quality products, many years of expertise in concrete technology and excellent customer service have made us a reliable and powerful partner in the concrete industry and to one of the leading manufacturers in Europe.

### OUR CORE COMPETENCE: CONCRETE TECHNOLOGY

In 1970, we were founded as a construction materials testing laboratory. Since then, we constantly expanded our business portfolio by offering concrete admixtures, concrete colours and concrete protecting products. Today, their manufacturing is our main business segment.

Meanwhile, the building material testing department has become an independent business unit of Ha-Be and thus remains crucial in the regard of customised formulation development and in solving concrete technological challenges.

### OUR PRODUCT SYSTEMS

We develop flexible concrete technology solutions for ready-mix concrete, precast concrete, manufactured concrete products, and large projects and have different product systems for these areas of application in our product range. These systems include all common admixtures according to EN 934-2. They are completed by our products in the concrete colour and concrete protection ranges as well as our range of fibres.

### OUR STRENGTH: THE APPLICATION TECHNOLOGY

Our experienced concrete technologists and application engineers advise our customers on product selection and supervise the safe use of our products in the factory or adjust them to the concrete directly on the construction site for the optimal result.

### OUR SPECIAL SERVICE: OUR OWN LOGISTICS

Flexibility is our strength. Our services include the delivery of our products with our own logistics. This enables us to react quickly and flexibly to product requests and delivery specifications.



- |            |                 |               |
|------------|-----------------|---------------|
| 1 Germany  | 8 Baltic States | 15 Azerbaijan |
| 2 Denmark  | 9 Finland       | 16 Cyprus     |
| 3 BeNeLux  | 10 Russia       | 17 Israel     |
| 4 Italy    | 11 Moldova      | 18 Egypt      |
| 5 Croatia  | 12 Romania      | 19 UAE        |
| 6 Slovenia | 13 Bulgaria     | 20 Oman       |
| 7 Poland   | 14 Georgia      | 21 Nigeria    |
- Ha-Be Production-Sites  
● Ha-Be Representations



- |  |   |
|--|---|
| 1 Hameln<br><b>Head Office</b><br>Ha-Be Betonchemie GmbH | Hameln<br><b>Central Building Material Laboratory</b><br>Ha-Be Baustoffprüftechnik GmbH |
| 2 Berlin<br>Distribution Center                          | 3 Penig<br>Distribution Center  |
| 4 Wernsdorf<br>Ha-Be Baustoffprüftechnik GmbH            | 6 Frankfurt<br>Baustofflabor Beton- und Baustoffprüfung GmbH                            |
| 5 Augsburg<br>Distribution Center                        | 7 Hagen<br>Baustofflabor Hagen GmbH   |

## Who we are and what we do

# OUR LOCATIONS

Our head office is in Hameln, Germany. We are represented by several subsidiaries and representative offices in Europe, Middle East and North Africa.

However, for individual projects and backed up by our application technology division, we export our products to many more countries worldwide.

## GERMANY

Germany is our largest market area. The head office, the central laboratory for building material testing technology as well as the admixture and colour production are located in Hameln. In addition to that, we have a location in Penig / Wernsdorf and two distribution centres in Augsburg and Berlin.

## EUROPE

We supply the European markets from our productions in Hameln, Bulgaria and Georgia. In many European countries, we are represented by representative offices and agencies.

## MENA REGION

After Ha-Be Middle East was founded in Sharjah (UAE) in 2006, we have continuously expanded our locations in the Middle East and North Africa. The branches in UAE, Oman, Egypt and Syria have their own production facilities.

## OTHER INTERNATIONAL ACTIVITIES

For individual projects and backed up by our application technology division, we export our products to many more countries worldwide.



## Who we are and what we do

# SUSTAINABILITY

Sustainability – We are convinced that long-term success is only possible with sustainable products. Therefore, we consider not only the economic, but also social and especially the ecological factors in our product development. Many of our products make an important contribution towards a sustainable and efficient use of concrete.

### ECOLOGICAL CONCRETE OPTIMISATION

Concrete is a very energy-intensive product. Therefore, the increased use of resource-saving materials in concrete mix designs is essential.

Many of our admixtures are specially designed for concrete mix designs using sustainably produced binders and recycled materials. This way, aggregates can be reused and the amount of fresh water can be decreased. Often, not only the ecological balance is improved, but also technical performance criteria such as flowability, consistency retention and pumpability.

### OUR ADDITIVES IMPROVE ENERGY EFFICIENCY

Our PANTARHIT® superplasticizers and PANTAQUICK accelerators can contribute to an improved energy efficiency. As our superplasticizers enhance workability and compaction properties, less compaction energy is required when paving concrete. Especially in the manufacture of precast concrete elements, our superplasticizers and accelerators can reduce the total energy consumption, as they allow for a reduction of the energy-intensive heat treatment that is needed to generate the required early strengths.

This not only saves considerable costs, but can also reduce harmful emissions.

### CONCRETE PROTECTION INCREASES THE LIFE CYCLE

Our DURAHIT® and PROTECT products increase the durability of concrete and thus extend the life cycle of concrete. The product properties reduce water absorption and dirt build-up.

Concrete surfaces are not only resistant to visual defects such as permanent soiling or efflorescence, but also protected against damages such as frost and de-icing salt damage. This can significantly extend the life cycle of concrete.

### OBJECTIVE ACCOUNTING THROUGH EPDS

The European Federation of Concrete Admixtures Associations Ltd. (EFCA) determines in so-called „environmental product declarations“ (EPDs) the impact that a product has on the environment. The entire product life cycle is taken into account, quantified and balanced. This impartial and verified information is available for many of our products, e.g. our superplasticizers and concrete plasticizers, air entraining agents, retarders, accelerators, hardening accelerators and sealers.



### Our concrete admixtures

## INCLUDE THE AREAS OF APPLICATION



READY-MIX CONCRETE



PRECAST CONCRETE



MANUFACTURED  
CONCRETE PRODUCTS



INFRASTRUCTURE  
CONSTRUCTION

### Our product range

## OUR ADMIXTURES

Our core competence is concrete chemistry. We manufacture specially developed product ranges for the various areas of application of ready-mix concrete, precast concrete and manufactured concrete products. These product ranges are tailored to the special requirements of the respective application.

### THE RANGE

Our range of admixtures includes all common products according to EN 934-2, e.g.

- ▶ Accelerators
- ▶ Air entraining agents
- ▶ Curing agents
- ▶ Expanding agents
- ▶ Foaming agent
- ▶ Plasticizers
- ▶ Release agents
- ▶ Retarders
- ▶ Screed & mortar additives
- ▶ Shrinkage reducer
- ▶ Stabilisers
- ▶ Superplasticizers
- ▶ Viscosity modifiers
- ▶ Water resisting admixtures

### ASSORTMENT BY AREA OF APPLICATION

The range of admixtures must meet different requirements depending on the area of application. We divide our products into the following application areas:

- ▶ Ready-mix concrete
- ▶ Precast concrete
- ▶ Manufactured concrete products
- ▶ Infrastructure projects



### Our product range

## OUR ADMIXTURES FOR READY-MIX CONCRETE

Concrete according to properties, composition or as a standard product – with our specially developed admixtures and experienced application engineers, you can realise the defined concrete technological requirements economically.

### SPECIAL ADMIXTURES FOR READY-MIX CONCRETE

Our concrete plasticizers, superplasticizers and high-performance superplasticizers branded PANTARHEO, PANTARHIT® and PANTARHIT® RC are tailored to the special requirements of the ready-mix concrete industry. They allow for precise adjustment of the consistency, make it easy to work, and are robust against changing raw materials and fluctuating water contents. Whether in day-to-day business or for unusual projects – with our admixtures, concrete technological requirements are met economically.

### BENEFIT FROM THE FOLLOWING PROPERTIES:

- ▶ Fast dispersion, which enables a shorter mixing time
- ▶ Low w/c values
- ▶ Optimised flowability
- ▶ Excellent workability properties
- ▶ Low viscosity
- ▶ Improved pumpability
- ▶ High stability of the concrete mix



### Our product range

## OUR ADMIXTURES FOR PRECAST CONCRETE

Admixtures for the precast industry have to meet both requirements, the one on the efficient manufacturing process and the one on high visual demands. Our specially developed high-performance superplasticizers of the PANTARHIT® PC line, the PANTAQUICK accelerators and release agents meet these requirements.

### SPECIAL ADMIXTURES FOR PRECAST CONCRETE

As our superplasticizers achieve high early strength in concrete even without heat treatment, they can shorten stripping times. Furthermore, the optimised compaction can reduce the workload and thus leading to an increased productivity.

Our release agents and cleaning agents enable the production of flawless surfaces of an exposed concrete quality and significantly extend the service life of formwork.

### BENEFIT FROM THE FOLLOWING PROPERTIES:

- ▶ Excellent workability
- ▶ High early strength
- ▶ Shortened stripping times
- ▶ Optimised production efficiency
- ▶ High-quality for exposed concrete
- ▶ Reduced energy consumption
- ▶ Decreased costs





### Our product range

## OUR ADMIXTURES FOR CONCRETE PRODUCTS

Paving stones, terrace slabs and design elements – most manufactured concrete products are pressed and compacted. In order to make the production process of these products as efficient as possible, short cycle times and consistently high-quality are required. Our specially developed plasticizers of our ANTIPOR® line are tailored exactly to these requirements.

### SPECIAL ADMIXTURES FOR MANUFACTURED CONCRETE PRODUCTS

Our admixtures optimise the workability of concrete, increase the green strength, reduce sticking to the stamp, and reduce the hardening time. In addition, they improve the compaction of concrete and thus allow for the production of a denser and more homogenous concrete structure. Porous areas are minimised, side finishing is improved and edges of concrete products are clearly defined. In short: The ANTIPOR® products support you in the economical production of high-quality concrete products.

Our concrete technologists adjust our products directly on site to the customer-specific concrete. They also supervise their application-safe use and thus guarantee an optimal result of face and core concrete.

### SPECIAL ADMIXTURES FOR WETCAST PRODUCTS

Wet cast elements are produced using a casting process. Here, optimal flowability properties of the concrete are crucial. The innovative superplasticizers of the PANTARHIT® PC line were especially developed for this purpose. They have a strong plasticising effect, deaerate the concrete, minimise the compaction effort of the concrete and create high early strength.

These properties enable you to remove the formwork earlier and to reuse them sooner again. PANTARHIT® PC plasticizers thus contribute to an increased productivity.

**Our admixtures for infrastructure construction**

## APPLICATION AREAS



CONCRETE ROADS



FLIGHT OPERATING AREAS



CONCRETE PROTECTION WALLS



BRIDGE BUILDING

**Our product range**

## ADMIXTURES FOR PROJECTS

Whether tunnel construction, concrete roads, or bridge constructions – we have developed specific admixture systems for concrete that is used in the infrastructure sector. The product systems are tailored to the respective requirements and needs of the following areas of application:

### SPECIAL ADMIXTURES FOR TUNNELING

Tunnels are built either using conventional construction methods or using TBM. Each type of construction has different requirements on the concrete.

Shotcrete, for example, requires a controlled and improved pumpability, sprayability and workability as well as prompt setting properties right after it has been applied.

For concrete that is used in segment production, on the other hand, high early strength concrete and low-porous surfaces are required. Therefore, we have developed various product systems that are tailored to the respective requirements. These include:

#### Systems for tunnels in wet spraying processes

- ▶ Shotcrete
- ▶ Inner tunnel shells

#### Systems for tunnels using TBM

- ▶ Segments
- ▶ Annular gap mortar
- ▶ Soil conditioning



Ha-Be Tunnel Team

### PRODUCT SYSTEMS FOR ROAD CONSTRUCTIONS

We have developed special product systems for concrete roads and air traffic areas. Here, the freshly produced concrete requires to attain a defined air entrainment and compaction. Furthermore, its workability and stability are important. Our specially developed product systems consist of concrete plasticizers and air entraining agents.

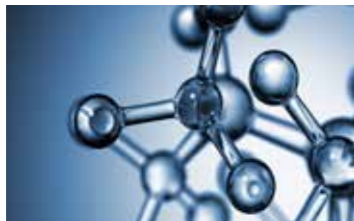
The system is completed by our high-quality surface retarders, which allow for the later removal of the surface mortar and the specially developed CURING compounds that protect the concrete surface after brushing or after brooming.

Benefit from the following advantages:

- ▶ Coordinated admixture system consisting of concrete plasticizers, air entrainers and retarders
- ▶ Enhanced compaction
- ▶ Smooth progress of the slipform paver
- ▶ Optimal sprayability of the curing compound & surface retarder
- ▶ Avoiding nozzle blockages
- ▶ Reliable process

### Our concrete protection

## OUR RANGE INCLUDES



HYDROPHOBICS & SEALERS



CRYSTALLINE ADDITIVES



IMPREGNATIONS,  
COATINGS & UV COATINGS

### Our product range

## OUR CONCRETE PROTECTION

DURAHIT® and PROTECT – these are the brands for sustainable concrete protection. While DURAHIT® was especially designed for ready-mix concrete, precast concrete and concrete in infrastructure construction, PROTECT aims at manufacturers of manufactured concrete products.

### THE DURAHIT® PRODUCT SYSTEM

Our DURAHIT® line consists of the following product components:

- ▶ Water resisting admixtures according to EN 934-2
- ▶ Colour-neutral premium impregnation according to EN 1504-2
- ▶ Colour-intensifying sealers

### THE PROTECT PRODUCT SYSTEM

Our PROTECT line includes these product groups:

- ▶ Integral waterproofing admixtures and additives according to EN 934-2
- ▶ Colour-neutral impregnations
- ▶ Colour-intensifying sealers
- ▶ UV-curing systems

### PROFIT FROM THE FOLLOWING BENEFITS:

The products achieve effective protection mechanisms that offer the following benefits:

- ▶ Permanent waterproofing
- ▶ Increased freeze-thaw salt resistance
- ▶ Reduction of efflorescence
- ▶ Improved repellency against oil, petrol and acidic substances
- ▶ Less weathering
- ▶ Protection against soiling
- ▶ Long-lasting colour brilliance and permanent flawless appearance
- ▶ Long-lasting colour retention, visual enhancement, fewer complaints
- ▶ Increased long-term performance

**Our concrete colours**

## OUR RANGE INCLUDES



PIGMENTS



GRANULES



LIQUID COLOURS / SLURRIES

**Our product range**

## OUR CONCRETE COLOURS

In addition to pigments and granulates, our range also includes high-quality liquid colours. Whether black, Anthracite, red, yellow or beige – Our multi-faceted, high-quality pigments, granules and liquid colours provide a unique look to your concrete products.

### CERTIFIED QUALITY

For colouring your concrete, the quality of the colour used is of crucial importance. Therefore, concrete colours manufactured and used within the European Union, must meet several requirements, specified in DIN EN 12878. We are certified to this European Standard and thus only offer products that meet the standard's requirements.

### OUR PIGMENTS & GRANULES

Enhance the appearance of your concrete products by colouring them. Choose out of an extensive range of high-quality pigments and granules – whether iron oxides, carbon pigments, chromium oxide, cobalt blue or titanium white. Our special manufacturing processes add outstanding longevity to them – for concrete colours with enduring brilliance and intensity.

### OUR LIQUID COLOUR

Liquid colours are suspensions of pigments, water and additives. During the manufacturing, the pigments optimally disperse and thus develop their full colour power – providing the concrete with a high level of colour brilliance.

### REPRODUCTION & COLOUR CREATION

Do you need a special blend? Sometimes, specific ideas about colours and colour hues already exist. Therefore, we have initiated our „Colourise Your Concrete“-Concept. As colouring concrete is not only about choosing a colour, but depending on various concrete technological parameters, we match or design your specific colour considering the properties and ingredients of your concrete, i.e. the colour of the cement, grain sizes of aggregates, w/c-ratio and thus also limit the risk of any colour deviation.

### Our additives

## OUR RANGE INCLUDES



MICROSILICA



MOWILITH® LDM 6880 / CELVOLIT® LDM 6880

### Our product range

## OUR ADDITIVES

With MOWILITH® LDM 6880 / CELVOLIT® LDM 6880\*, we offer a copolymer dispersion that is particularly suitable for the production of liquid-proof concrete. Celanese Emulsions GmbH itself granted us the exclusive distribution rights for this additive. Furthermore, we offer "Ha-Be Silica Fluid", a liquefied form of silica fume.

### MOWILITH® LDM 6880 / CELVOLIT® LDM 6880

MOWILITH® LDM 6880 / CELVOLIT® LDM 6880 is an organic concrete additive for the production of liquid-proof concrete in accordance with various regulations worldwide such as to the German Federal Water Act (WHG) and the ordinance on installations for handling substances hazardous to water (AwSV). It is suitable for the production of:

- ▶ Fueling and filling areas
- ▶ Concrete containment structures, e.g. collection chambers
- ▶ Sewer pipes
- ▶ Production facilities

MOWILITH® LDM 6880 / CELVOLIT® LDM 6880 increases the resistance of concrete to:

- ▶ Acids
- ▶ Salt solutions
- ▶ Fuels
- ▶ substances hazardous to water

### MICROSILICA

Microsilica is used to optimise the impermeability and durability of concrete. Our microsilica products are made of high quality silica fume. In general, the additives offer the following advantages:

- ▶ Increase strength
- ▶ Improve durability
- ▶ Optimise water retention capacity
- ▶ Increase deep-penetration impermeability

▶ MOWILITH® IS A REGISTERED TRADEMARK OF CELANESE EMULSIONS GMBH.  
MOWILITH® LDM 6880 IS THE SAME PRODUCT AS CELVOLIT® LDM 6880. THE BRAND NAME MOWILITH® IS USED WITHIN EUROPE  
WHEREAS THE CELVOLIT® BRAND NAME IS USED OUTSIDE EUROPE.

Our fibres

## OUR RANGE INCLUDES



MICROFIBRES



MACRO FIBRES



STEEL FIBRES

## Our product range OUR FIBRES

Our fibre range includes various polypropylene fibres of different lengths as well as different types of steel fibres. Therefore, we are able to offer individual solutions for a wide variety of construction projects.

### POLYPROPYLENE FIBRES

Polypropylene fibres can be used very versatile. Depending on the product and application, they can increase the fire resistance of concrete, reduce shrinkage cracks or improve the durability and structural strength of concrete. Typical areas of application for polypropylene fibres include, but are not limited to:

- ▶ Shotcrete
- ▶ Precast concrete elements, segments & inner tunnel shells
- ▶ Manufactured concrete products
- ▶ Industrial floors
- ▶ Agricultural buildings
- ▶ Concrete traffic areas as well as maritime structures and hydraulic engineering
- ▶ Foundations, floor slabs, screed and sub-floors

### STEEL FIBRES

Steel fibre reinforced concrete often replaces wire mesh concrete nowadays, because it allows optimising construction processes, reducing execution time and construction costs. Steel fibres are discontinuous and isotropic, i.e. they can be distributed throughout the concrete volume, modifying its properties in all directions. As a result, a concrete reinforced with steel fibres has a high resistance to compression, traction and flexion. At the same time, it has better ductility and therefore, less tendency to crack. Typical areas of application for steel fibres are:

- ▶ Floor slabs & foundations
- ▶ Industrial floors
- ▶ Basement walls
- ▶ Open spaces and roadways
- ▶ Shotcrete with steel fibres



## Our service

# OUR BUILDING MATERIAL LABORATORIES

Limit your efforts and benefit from our service and support concept! Whether preliminary tests, concrete technological tests or trials on-site – we at Ha-Be offer a comprehensive range of services that is of real added value to you: You save time and money!

### YOUR ADDED VALUE – OUR CONCRETE LABORATORY

The cooperation with our certified concrete laboratories within the Ha-Be group of companies offers you real added value. Here, we analyse and test all concrete technological parameters and can later on perfectly adjust our products to your concrete.

### PLANT AND FACTORY TRIALS – WE LIKE TO HELP

Whether dosing the admixtures into the mixer or sampling – during plant trials and trials on-site, we lend you a helping hand. You can rely on our experienced concrete technologists.

### CONCRETE TECHNOLOGICAL TESTS

The tests we offer include, but are not limited to:

- ▶ All common fresh concrete tests according to DIN EN 12350
  - ▶ All common tests on aggregates
  - ▶ Frost / de-icing salt resistance
  - ▶ Compressive strength
  - ▶ Splitting tensile / flexural strength
  - ▶ Water absorption capacity
- and many more ...



## Our service

# OUR TECHNICAL CENTER

How durable is a surface protection? Does it protect reliably against efflorescence and dirt? And does it adhere strongly enough to the underground? We will answer to all of these questions!

Having modern testing facilities, we analyse the performance of surface protection systems applied on concrete products.

### YOUR ADDED VALUE: WE APPLY FOR YOU!

Testing coatings, adjusting application quantities, and analysing results – Our technical experts customise our protection systems according to your products using your dimensions. Our modern testing facilities allow high accuracy and do not notably vary from common plant facilities. All results are therefore trustworthy and transferable. For you, these tests have the following advantages:

- ▶ Illustration of the expected results
- ▶ Determination of the individual application quantities according to the absorption properties.

### REALISTIC CONDITIONS CREATE TRANSFERABLE CONDITIONS

From impregnations through to product systems consisting of primer and top coat, and to UV coatings: All surface protection systems may be applied using the testing facilities. As different surface protection products have to harden by different drying systems, our concrete laboratory has both a UV and a NIR drying device.

### MOBILE APPLICATION TECHNOLOGY FOR FACTORY TRIALS

In addition to the testing facilities in our technical centre, we also our test surface protection products on-site, i.e. in your factory! Therefore, we use mobile application devices such as a mobile spray bar. The technology of these mobile devices correspond to the one of commonly installed in plants and factories. Thus, they provide reliable and transferable results. Our experienced application engineers will support you here.

### PROFESSIONAL TESTING SERVICES

Equipped with state-of-the-art testing facilities, our concrete laboratory provides profound analysis of different concrete technological testing services. In regards to surface protection, these include, but are not limited to:

- ▶ QUV rapid weathering
- ▶ weathering
- ▶ Determination of water absorption
- ▶ Determination of stain resistance
- ▶ Determination of strength values
- ▶ Determination of skid resistance (SRT pendulum test)





### Our service

## APPLICATION TECHNOLOGY & TUNNEL TEAM

Our comprehensive support concept offers you reliable on-site support. In the works and on the construction site, our regional sales representatives are available together with the application technology department to the side. We have set up a highly specialized working force for tunnel construction – our Ha-Be Tunnel Team.

### SUPPORT BY APPLICATION TECHNOLOGY

Concrete technology depends on various different parameters. Often, conditions change and the ones existing on the day of installing the concrete differ from those existed during trials on previous days. Being aware of and considering these changing parameters is crucial, in order to, nevertheless, meet the defined requirements for the concrete. Take advantage out of a pool of experienced concrete technologists and engineers in application technology. They support you directly on site in achieving the optimal result. We at Ha-Be offer a comprehensive service that makes work processes easier and represents a real added value.

### BENEFIT FROM THE TUNNEL TEAM

You can rely on the expertise of our highly specialised working force for underground construction. The Ha-Be Tunnel Team consists of specialised concrete engineers and application engineers who develop proposals for concrete technology adaptation, application and procedure on international construction sites. Take advantage out of the know-how and experience gained from numerous renowned projects by our practice-proven specialists.



### Our service

## OUR LOGISTICS

We make your life easier – our range of services is completed by our in-house fleet. We offer and maintain our own logistics service, ensuring that all our products are delivered on time – even at short notice.

### ADVANTAGES OF OWN LOGISTICS

Our own staff is regularly trained – a proven recipe for clean and professional filling of the tanks. You benefit from the following advantages:

- ▶ Professional delivery and, if necessary, transferring
- ▶ delivery on time
- ▶ Flexibility

### STORAGE AND DOSING SYSTEMS

For large-scale projects, you may also want to benefit from our storage and dosing systems: By supplying you with mobile systems on a rental basis, we also provide you with additional storage capacity on-site. These flexible storage systems are – as well as our dosing systems – adjustable, i.e. customised according to your specific project requirements. Thus, you ensure the permanent availability of required materials.

Plant manufacturing & application technology

## OUR PARTNER BM-ANLAGENBAU



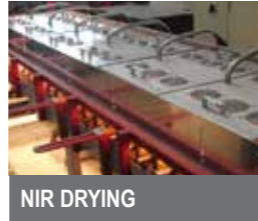
DOSING SYSTEMS



SPRAYING DEVICES



UV HARDENING



NIR DRYING

## BM-Anlagenbau & Dosiertechnik GmbH PLANT CONSTRUCTION

Our product systems for concrete products are completed by the plant technology provided by our partnering company BM-Anlagenbau & Dosiertechnik GmbH. In addition to its state-of-the-art spraying and dosing devices, the company is known for its drying and surface protection systems.

### DOSING SYSTEMS

Whether volumetric or gravimetric, permanent or mobile, concrete colour or admixtures – BM offers a wide range of dosing equipment. These will be manufactured according to your requirements provide you real added value:

- ▶ Accurate dosing
- ▶ Improved cost-efficiency
- ▶ User-friendly operation
- ▶ Simple and cost-effective integration into existing production cycle

### SPRAYING DEVICES

BM engineers and designs state-of-the-art spraying systems. These include, e.g. the innovative “pulse nozzle systems” with integrated volumetric measuring system. This offers significant advantages:

- ▶ An adjustable application quantity
- ▶ Improved spray pattern
- ▶ More efficient and accurate production process

### NIR-DRYING AND UV-HARDENING

Whether using UV-coatings or impregnations for surface finishing: BM offers efficient drying and hardening systems for both finishing concepts.

Both technologies provide a high level of efficiency, flexibility, and productivity. Both are easy to install within an existing production line. You benefit from:

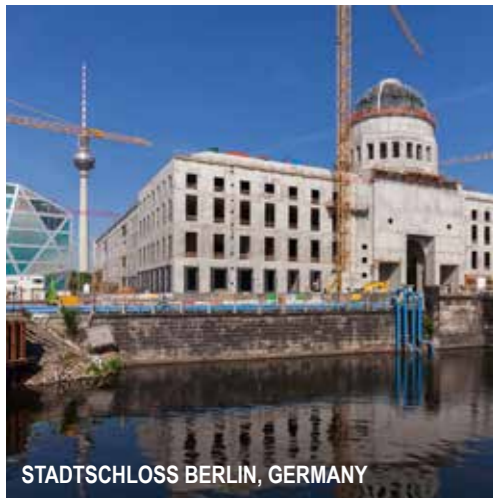
- ▶ Low installation costs
- ▶ Decreased energy consumption
- ▶ Saving time, space and money

Our references

## BUILDING & ENGINEERING

Our references

## CONCRETE ROADS & TUNNELING



STADTSCHLOSS BERLIN, GERMANY



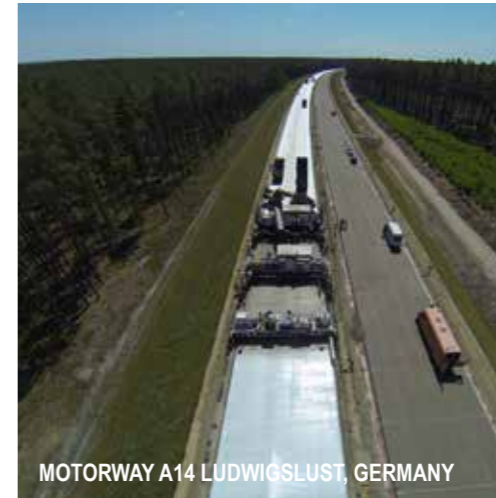
ELBPHILHARMONIE HAMBURG, GERMANY



EZB FRANKFURT, GERMANY



EMSCHER SEWER, GERMANY



MOTORWAY A14 LUDWIGSLUST, GERMANY



CROSSRAIL C510, LONDON, ENGLAND



LOCK DÖRVERDEN, GERMANY



MERCEDES BENZ MUSEUM, STUTTART, GER



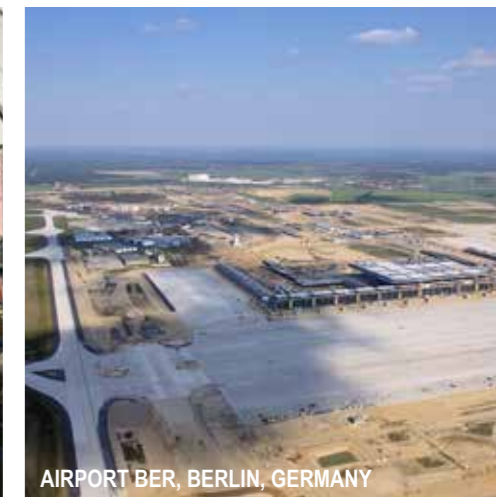
PALM JUMEIRAH, DUBAI, UAE



AIRPORT FRANKFURT, GERMANY



ISMALIA & PORT SAID TUNNEL, EGYPT



AIRPORT BER, BERLIN, GERMANY



PRINCESS TOWER DUBAI, UAE



ELEFERTIA SQUARE, NICOSIA, CYPRUS



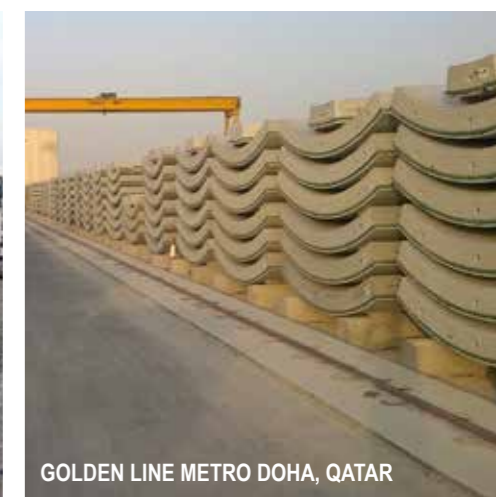
STAATL. MUSEUM ÄGYPTISCHER KUNST, MUNICH



BIBRA TUNNEL, GERMANY



MOTORWAY A7 HAMBURG, GERMANY



GOLDEN LINE METRO DOHA, QATAR

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