

LỄ KÝ KẾT HỢP TÁC ĐẦU TƯ CHIẾN LƯỢC TẬP ĐOÀN MC-BAUCHEMIE MÜLLER GMBH & CO. KG & CÔNG TY CỔ PHẦN BIFI

SIGNING CEREMONY STRATEGIC PARTNERSHIP AGREEMENT
MC-BAUCHEMIE MÜLLER GMBH & CO. KG AND BIFI JSC



MC Report

MC boosts presence in Vietnam

MC-Bauchemie and BIFI merge as MC-BIFI Bauchemie

Page 8



MC Inside
MC mourns passing of
senior partner Hilde Müller Page 3



MC News
A bridge
for Brunei Page 7



MC Innovation
New high-performance
grouting mortars Page 13



MC Personnel
Congratulations to our
long-service awardees Page 15

Dear Reader,



Having lived a full and accomplished life, my mother Hilde Müller, senior partner at MC, died on 9 November 2017, three days before her 95th birthday. She actively supported my father and company founder Heinrich W. Müller in building and expanding MC-Bauchemie from the very beginning, managing the company's finance and accounting department in the early years.

She was the soul of the organisation and played a decisive role in the successful development of MC. We are forever grateful for her winning and engaging nature and will honour her memory.

We will ensure that MC continues to be successful going forward. We took an important step in this direction in Southeast Asia by entering into a joint venture with BIFI JSC in August. BIFI was established in 2004 and has developed into the leading supplier of concrete admixtures and grinding aids for the cement industry in Vietnam. Politically stable with a market economy, Vietnam is now rapidly evolving from a developing to an emerging nation. The Vietnamese economy has enjoyed sustained growth for many years, with the construction industry serving as the

engine. We therefore see considerable prospects in business development. Our new company, MC-BIFI, provides an important springboard for our activities in South Asia and is set to assume a strategic role in this region. MC-BIFI has already celebrated its official launch with customers and employees in attendance at the inauguration, and you can read more about this in our MC Report.

Using MC product systems for construction or repair work is a sure way to make structures better and safer. This applies not only in Europe and Asia but worldwide, as you will see for yourself. In this MC aktiv, we offer a selection of project reports and news, rounding off our year-end edition as usual by honouring our 2017 long-service awardees, without whom we could never be as successful as we are.

I wish you an enjoyable read, a joyous and restful Festive Season and also a happy, prosperous and successful New Year!

Kind regards

Dr.-Ing. Claus-M. Müller

Contents

- 3 MC Inside**
MC mourns passing of senior partner Hilde Müller
- International Energy Symposium**
- MC in Wikipedia**
- 4 MC News**
Exhibition centre expansion in Frankfurt
Grouting mortars and concretes, sealants and waterproofing systems from the MC Group are all in high demand at one of Germany's biggest high-rise projects.
- 5 Historical site protected for posterity**
MC injection technology is successfully used to waterproof an underground synagogue at Jerusalem's Temple Mount.
- 6 Dedicated to art**
The Museum of Fine Arts in Budapest, Hungary, has been undergoing extensive repairs since 2016, with smart solutions from MC integral to their success.
- 7 A bridge for Brunei**
Around 150,000 m³ of concrete with admixtures from MC is being poured into the construction work on the Pulau Muara Besar Bridge in Brunei.
- 10 Cologne's peripheral drain completely renovated**
Essential infrastructure refurbishment project and exceptional logistical achievement.

- 11 Hello again, Manchester**
Prestigious Baskerville House undergoes thorough upgrade, with MC once again in the mix – just like the original build 14 years ago.

- 12 Rapid car park refurbishment**
To minimise car park downtime, planning engineers and client choose fast-acting product systems from MC for a floor recoat.

MC Facebook fan page now online

- 14 News in brief**

MC Report

- 8 MC boosts presence in Vietnam**
The Vietnamese construction sector is booming. Keenly aware of the opportunities for growth, MC acquired a majority stake in BIFI JSC in August 2017, leading to a joint venture.

MC Innovation

- 13 New high-performance grouting mortars**
New product line of adhesion promoters

MC Personnel

- 15 Congratulations to our long-service awardees**
Welcome to the team

Cover Photo

The photo shows the signing ceremony held in Hanoi on 10 August 2017 creating the strategic partnership between BIFI JSC and MC-Bauchemie and the joint venture, MC-BIFI Bauchemie JSC. Sitting from right to left: Dr. Van Tri Le, the founder of BIFI JSC, and Dr. Ekkehard zur Mühlen, Managing Director at MC and member of the Board of Directors of MC-BIFI Bauchemie JSC. Standing from right to left: Thanh Ha Le and Ngoc Truong Vu (both Managing Directors of MC-BIFI), The-Tuong Do (Business Development Manager Far East at MC), Nick Varley (Regional Manager Far East at MC) and Anh Vinh Le, former shareholder of BIFI JSC.

Photo: MC-BIFI, Vietnam

Credits

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MC mourns passing of senior partner Hilde Müller

Our senior partner Hilde Müller passed away on 9 November 2017, a few days before her 95th birthday. Together with her husband Heinrich W. Müller, she founded MC-Bauchemie and actively contributed to the creation of a modern, international company from these early beginnings. While in the early years Heinrich W. Müller was responsible for sales development, Hilde Müller managed the company's finance and accounting department. Even when her sons Claus-Michael and Bertram Rüdiger joined the Executive Board, she remained dedicated to MC with her unfailing modesty and



discretion. Consistently prepared to relegate her personal concerns to the back of her mind, she was both balanced and positive in her influence. She thus played a decisive role in the successful establishment and expansion of our company.

In gratitude for her life, we now mourn the passing of our senior partner. With her winning personality, natural authority and social responsibility, she served as a paradigm for us all. Hilde Müller was laid to rest at an intimate family ceremony.



International Energy Symposium

From 24 to 26 October 2017, an International Energy Symposium was held at MC's seminar and training centre in Bottrop, Germany, attended by sixty owners, operators and planners of energy systems from Africa, Asia, Europe and South America. The event was organised by Reinhard Martin, Global Target Manager of FoE Energy & Renewables, together with power plant expert Holger Schwarze, and included presentations by internationally renowned speakers on topics related to wind power, hydropower and thermal power plants. Also included were presentations on current projects and a series of product application demonstrations, with plenty of opportunities for participants from so many locations around the world to share their transnational knowledge and experience.

MC in Wikipedia

The German edition of the online encyclopaedia Wikipedia now has another entry with the recent addition of MC Bauchemie's company profile.

Our Wiki page:

<https://de.wikipedia.org/wiki/MC-Bauchemie>





Scraping the sky. The MC team led by Stefan Hettwer (centre in the bottom right picture) in June 2017 celebrating completion of the roof.

Exhibition centre expansion in Frankfurt

When buildings reach for the sky in Frankfurt am Main, products from MC are frequently involved. The city's Europa quarter on the river Main – fondly referred to as “Mainhattan” – is home to one of the biggest high-rise projects in Germany. Now a two-storey exhibition hall with a footprint of almost 34,000 square metres is being constructed there by order of the Frankfurt Exhibition Centre, with the topping-out ceremony celebrated in September 2017.

Messe Frankfurt is the world's largest trade fair, exhibition, congress and event centre and is continuing to expand. Its new two-storey exhibition hall “12” is scheduled for completion in time for Automechanika in the autumn of 2018. The building is around 248 metres long, 118 metres wide and some 30 metres high, meaning the total exhibition area over the two storeys is around 33,600 square metres. Its topping-out ceremony to celebrate completion of the last stage of the basic structure was held on 9 September 2017. To date, 60,000 cubic metres of ready-mixed concrete and 13,000 metric tons of steel have been installed as part of this project, together with 11,500 precast concrete components.

Strong connections

The companies Max Bögl, Ed-Züblin AG and Engie Deutschland, all members of the construction consortium, opted for products from the MC Group to see the work through. In addition to classic concrete cosmetics solutions, the consortium also favoured the grouting mortars and concretes Emckrete 60 A and 60 F

from MC. The Emckrete 60 A grouting concrete was particularly widely used. Ideally suited to the grouting of fastening bolts, steel fasteners and rebars in concrete, and rigid joints between precast components and/or in-situ concrete, Emckrete 60 A is approved according to German code VeBMR-RiLi of the DAfStB, in addition to DIN EN 1504-6. The grouting concrete scored highly with its above-average performance in terms of flowability and workability, initial and final strength values and adhesive tensile strength. Ultimately, 48 concrete beams, each weighing 105 metric tons and measuring around 27 metres in length, were used as the joists for the upper hall level. Several thousand precast components were required in addition to these heavy-duty members, including a number of “lightweights” from 10 to 20 metric tons.

Advanced structure waterproofing solutions

The consortium also employed waterproofing products from Botament, MC's sister company. These included RD2 The Green 1, a fast-curing, bitu-

men-free reactive system that enables the rapid sealing of underground structures and earth-contact components in new buildings, as well as the renovation of old waterproofing systems. The material is highly flexible and crack-bridging. It is also leak-proof even under the negative water pressures frequently encountered during the construction phase. Since no primer is needed before its application, the waterproofing process requires fewer steps, saving time and money. Importantly, the large-scale use of precast components also helped ensure that the structural shell of “Messe Frankfurt” exhibition hall 12 was completed on schedule. The next stage of construction is the no less impressive interior outfitting and technical installation phase. According to Messe Frankfurt, this alone accounts for a good 60% of the overall budget.

Apropos grouting mortar

... you can read more about our high-performance grouting mortars on page 13!

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Historical site protected for posterity

The Western Wall of the Temple Mount in Jerusalem is considered one of the most important relics from the time of the Second Temple, which was destroyed about 2,000 years ago. Extensive excavation work is being carried out in order to preserve this historical heritage. As part of this huge project, a new synagogue is currently being built in a small area of the underground complex, with an injection resin from MC used to successfully seal it against water ingress.

Fifty years ago, the Israeli government initiated extensive excavations on the Temple Mount in Jerusalem in order to uncover the entire length of the Western Wall of the old Second Temple. The readily accessible part of the Wailing Wall - as it is also known - is only about 60 metres long, with most of its structure located underground. An additional 485 metres of access has since been provided through a tunnel. This runs alongside the Wailing Wall and is located under buildings of the old city of Jerusalem. Since 1988, excavation, maintenance and renovation work has been undertaken along the Western Wall and the adjacent square. The plans also include construction of a synagogue in an underground chamber that is around 700 years old. The management of this project has been entrusted to Sho-ham Engineering & Development Ltd.

Difficult conditions in the heart of Jerusalem

The primary issue hampering the project was clear: the underground chamber needed to be protected from both penetrating groundwater and surface water in an existing structure which was constantly being further exposed by excavation work, located right in the heart of a zone of exceptional historical and religious importance. This meant it was subject to particular restrictions, and avoiding damage to the existing structure and fabric was of paramount importance. In May 2017, MC submitted processes and applications suitable for this work

in collaboration with the company responsible for draining the planned construction area, Ben Laoman Ltd. The decision was made in favour of an injection technique using the flexible resin MC-Injekt GL-95, a solution that has often proved highly successful in similar projects in the past.

Sustainable solution with injection technology

MC-Injekt GL-95 is a low-viscosity hydrostructural resin with a short and controllable reaction time. It offers soft-elastic flexibility, is swellable on water contact and produces a membrane that is impermeable to water. The process involved injecting the resin behind the stones to create a durable curtain seal to waterproof the 700 year old wall structure, thus keeping the new synagogue reliably dry. The project was supported by Nir Dalith, Head of Concrete Repair and Infrastructure, and Guy Ashri, both from AZ, the exclusive Israeli distribution partner of MC for many years, as well as Wolfgang Litz, MC Business Development Manager responsible inter alia for our Israeli operation. Working together, they ensured that the injection project was successfully completed from the planning phase right through to technical implementation on site.

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A tunnel measuring almost 500 metres in length runs along the Wailing Wall underneath Jerusalem's old town to an ancient chamber which is to be used in the future as a synagogue and which therefore had to be sealed against the ingress of ground and surface water.



The focus of the art museum restoration work was on the almost 900 square metre Romanesque Hall (right).

Dedicated to art

The Museum of Fine Arts in Budapest, Hungary, is one of the building complexes around “Heroes Square”, a declared site of UNESCO World Cultural Heritage. The building, which is more than 100 years old, has been extensively renovated since 2016, with intelligent solutions from MC playing a major role.

Built between 1900 and 1906 in the style of neo-classicism, the museum located in the centre of the Hungarian capital houses a collection of more than 100,000 works of art from all periods of European art history. The renovation work is focused on 14,000 square metres, around 40 percent of the overall area of the museum, and particularly on the Romanesque Hall, measuring almost 900 square metres. Designed as a church, the hall is regarded as the most decorative space in the Museum of Fine Arts.

Unforeseen difficulties

Structural consolidation of the foundation became a particular challenge. Once the area had been exposed, it became clear that it was in a very poor state indeed. As the renovation was already in full swing, a fast, reliable and economically viable solution had to be found. From the outset, MC was

able to provide extensive advice to the general contractor, Magyar Építő Zrt, planning engineers Mányi Stúdió Kft who had overall responsibility, and the testing laboratory of the Materials Science Faculty of Budapest University of Science and Technology. MC proposed a combination of the special repair mortar Oxal RM-H HS and the grouting and injection suspension Oxal VP III HS. This was tested by the university labs and found to be a viable solution. For the first phase, a layer of Oxal RM-H HS mortar – highly resistant to mechanical stress and sulphate attack – was applied to the walls. Oxal VP III HS was then injected into the foundation in order to rigidly fill and seal its many crevices, joints and cavities. The speed and ease with which this solution was applied, due in particular to the relatively high early strengths achieved by this suspension, enabled the work to progress quickly.



Intelligent solutions

In order to seal the walls against moisture rising as a result of capillary action, MC suggested the injection of Oxal HSL as a damp-proof horizontal barrier – an ideal solution, particularly for brick walls. This work was implemented at the same time as the foundation consolidation activities as it only required small, portable injection equipment. Oxal HSL is strongly hydrophobic and especially suitable for large masonry thicknesses. It proved not only to be reliable but also more economical than the originally planned method. MC-DUR CFK carbon-fibre-reinforced strips were used to structurally strengthen the reinforced concrete ceilings, bonded in place by the duromer adhesive MC-DUR 1280. This avoided the need to remove and replace the ceiling, thus saving a great deal of time and money. Last but not least, the floor in the exhi-

bition rooms of the museum was renovated with the reaction resin system from MC comprising the primer MC-DUR 1390 VK, the epoxy resin coating MC-DUR 1212 VB and the special polyurethane surface sealer MC-DUR 2095 M. This system is characterised by its high resistance and very good cleanability and ensures exceptionally durable protection. As a result of MC's expertise, these unusual and unexpected challenges were solved to the full satisfaction of both the planning engineers and the building owners. Little wonder, then, that MC was again consulted with respect to further technical issues arising as the project proceeded.

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A tough challenge: The concrete had to exhibit an application time of at least two hours under extreme conditions with temperatures between 35 and 40 °C.

A bridge for Brunei

The 2.7 kilometre long bridge to connect Brunei with the island of Pulau Muara Besar across a strait was scheduled to take about three years to build. The project is expected to be completed in April of next year, by which time 150,000 cubic metres of concrete with MC admixtures will have been poured into the structure.

Once completed, the bridge will serve as an important traffic artery connecting the mainland of the Southeast Asian sultanate with a new industrial complex on the island of Pulau Muara Besar. The bridge is a flagship development for Brunei and a prestigious project for the contractor, China Harbour Engineering Company Ltd. (CHEC). As a result, correspondingly high demands were placed on the quality of the building materials from the very start. MC-PowerFlow 2151 and Centrament Retard 311 succeeded in establishing their superiority in what is a competitive international market of suppliers for concrete admixtures, delivering excellent results in the preliminary tests both for ready-mixed concrete and precast concrete components. Together with our local partner, C.Tech

Sdn Bhd, we have been able to develop ideal concrete formulations for a wide variety of applications.

MC admixtures satisfy extreme requirements

The challenge lay not only in working the concrete under the hot climatic conditions of Southeast Asia, but also in the required resistance to seawater. In addition, the work had to be carried out with a CEM I cement (62.5R), an extremely fine but exacting grade intended to guarantee a very high level of strength and durability in the concrete.

MC-PowerFlow 2151 was used for the bridge's foundations and girders. Based on MC polymer technology, the high-performance superplasticiser



is free of corrosion-promoting components, can be mixed quickly into the concrete and ensures extremely good liquefaction despite significant water savings. The project in Brunei achieved the required two hours of processing time for the concrete under outside temperatures between 35° and 40° Celsius.

Combined with Centrament Retard 311, MC-PowerFlow 2151 was just as successful in the construction of the bridge piers. The retarder's liquefying effect not only prolongs the workability period, it also results in a flatter temperature curve, thus reducing the risk of temperature-related stress cracks. It likewise contributes to increased final strength in the concrete. The right mix ensured that the concrete's

application time was extended to up to four hours.

Capabilities confirmed

Both these MC admixtures proved their worth in Brunei in an offshore site under difficult climatic conditions, with very good results: the concretes exhibit optimised processing properties, the required strength levels and an outstanding quality of finish, thus complying with the high quality specifications of the client.

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'Building the future' was the motto headlining the inauguration ceremony held in Hanoi in November. The timeline display in the foyer of the event hall ensured that the guests lingered as they made their way into the banqueting area. It showed the milestones in the history of MC and BIFI, culminating in the establishment of MC-BIFI as a joint venture, represented by a new milestone at the centre of the wall.

MC boosts presence in Vietnam

In August 2017, MC acquired a majority of the shares in BIFI JSC, Vietnam, a leading Vietnamese manufacturer of concrete admixtures and also grinding aids for the cement industry, subsequently entering into a joint venture with some of the previous shareholders. As a result, MC and BIFI merged into MC-BIFI Bauchemie JSC. On 8 November 2017, the new company celebrated its official launch with an entertaining and informative gala programme in Hanoi attended by over 200 customers and employees.

The event was also used to highlight MC as an internationally active, family-owned company with a long tradition, and to provide information about its product systems. Attendees were wowed with an entertaining stage show and elaborate choreography, which told the story of the origins of MC-BIFI.

BIFI was established in 2004 and was initially active in northern Vietnam. Today, MC-BIFI has two production plants in Hanoi in the north and one in Ho-Chi-Minh city in the south of the country, employing over 60 people in production, research and development, administration and sales. MC-BIFI has a considerable market share in concrete admixtures and also grinding aids for the cement industry in Vietnam. It therefore assumes a strategically important

role in Southeast Asia for the MC Group, representing another decisive step forward in pursuing its global growth strategy.

Strategically important with major growth opportunities

"The construction industry in Vietnam has been booming for many years and major infrastructure projects are currently receiving very strong support, which is why we see great prospects for growth in this country," said Dr. Ekkehard zur Mühlen, Managing Director of MC and a member of the Board of Directors of MC-BIFI. "We also hope that our joint venture will lead to shorter distribution routes and lower production and distribution costs in the Southeast Asia region," he added.

Ngoc Truong Vu, Managing Director of MC-BIFI Bauchemie JSC, said: "With the MC Group by our side, we are very well positioned in the Vietnamese market going forward. Our employees and customers are enthusiastic about this merger because 'Made in Germany' still carries enormous weight in Vietnam. With MC's additional know-how and leading product systems, we aim to tap into

the areas of protection and repair of concrete structures in particular so as to generate further growth." In his address, Nicolaus Müller, Managing Director of MC, emphasised that MC and MC-BIFI will benefit greatly from each other, ideally complementing their respective operations: "Together, we can help drive forward Vietnam's construction culture to even greater successes."

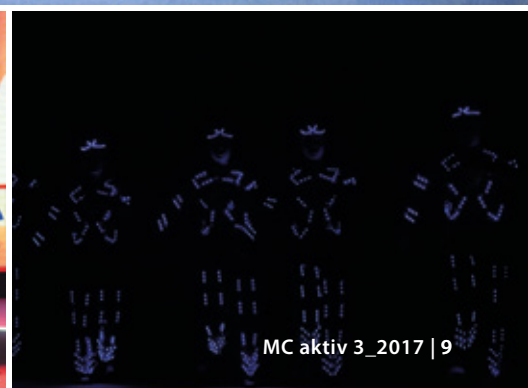
We look forward to seeing the enthusiasm shown during this launch event continuing for our new company over the long term, with positive developments blossoming from these initial green shoots. So we say: 'Thanh dat trien mien', which roughly translates as "May you enjoy much success!"

i MC in Asia

MC has been active in Asia for many years. It started with its own company in India in 1985 and in the following decades added further operations in Taiwan, Malaysia and Singapore. MC is also active in other Asian countries such as China, Indonesia, the Philippines and Thailand.



The Board of Directors of MC-BIFI Bauchemie JSC at the contract-signing ceremony held in Hanoi in August 2017 to establish the joint venture (from left to right): Nick Varley (Regional Manager Far East at MC), Dr. Ekkehard zur Mühlen (Managing Director of MC), Ngoc Truong Vu and Thanh Ha Le (both Managing Directors of MC-BIFI) and The-Tuong Do (Business Development Manager Far East at MC).





Around 200 metric tons of material had to be brought to the site, with the drain waters also having to be diverted for periods of time in an extremely complex and potentially costly operation.

Cologne's peripheral drain completely renovated

Cologne's peripheral drain (Randkanal) is part of the municipal drainage system and performs an important function in keeping the city free from surface water. Its paving was renovated in the summer of 2017 in a project that involved the complete replacement of the surface wear coat, together with some impressive logistical achievements along the way.

Expert-Proof eco was applied by spraying.



Cologne's peripheral drain is around 20 km long and serves to remove sump water from the nearby open cast mine, directing it into the river Rhine in order to compensate for high water in its tributary, the river Erft. The drain is consolidated by means of a concrete composite pavement, combined with an asphalt concrete layer below and a bituminous surface seal. The latter was heavily weathered and perforated by heavy biogenic growth, resulting in underflow erosion and spalling. In some places, the surface of the underlying interlocking paving was also extensively exposed. The client, Zweckverband Kölner Randkanal, followed the recommendation of Moers-based planners Marc Achterberg (IMA) to implement a total renewal of the surface coating using Expert Proof eco and Oxal RM-L, a system that IMA had developed together with its partners at MC.

Impressive results

The work was carried out from mid-May to the end of July 2017 by Weiss GmbH of Duisburg, under the management of Daniel Debbelt and Markus Lessmann. The coating system had to be UV-proof and offer durable resistance to the mechanical stress and chemi-

cal attack of the fast-flowing water. In addition, the repaired watercourse had to be ready quickly to receive water again in order to avoid major downtimes and additional water storage costs, with water having to be redirected at great expense during the work.

The bitumen-free sealant Expert Proof eco was applied by spraying. As well as being flexible, crack-bridging and highly economical, it offers the advantage of exceptionally fast, virtually temperature-independent curability, together with outstanding adhesion to the substrate and quick and easy overworkability. It is also harmless in terms of water hygiene and meets the strict criteria of the AgBB, the German committee for the health-related evaluation of building products. As IMA also identified the need for a mechanical wear layer, Expert Proof eco was fully scattered with sand as it was laid and was overcoated with Oxal RM-L after it had completely cured. This single-component, microsilica-modified mortar offers outstanding workability and is highly resistant to sulphates, wear, temperature and frost. Both products proved their outstanding strength of adhesion to the substrate during the

application work, which took place under adverse weather conditions alternating between continuous rain and unusually high temperatures above 30 degrees Celsius. Ultimately, this multi-product solution ensured that the drain could be quickly returned to service and exposed to the wear and tear of flowing water.

Exceptional logistical achievement

The extent of the refurbishment can be seen from the volume of building materials that had to be delivered. Approximately 200 metric tons of construction products were distributed along the length of the repair site using a sophisticated logistical plan which included unloading by crane to enable rapid application and placement. The client was delighted at the speed of the working cycles and the associated reduction in costs for water storage. The durability of the coating solution met the project specifications in full, much to the satisfaction of all.

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Colour upgrade: Baskerville House after the modernisation project (photo above). Even after 14 years, the surface protection from MC still looked good (photo below).

Hello again, Manchester

MC Building Chemicals, the British subsidiary of the MC Group, revisited a real prestige project in Manchester: the impressive Baskerville House in the city centre was ripe for extensive modernisation. And as with the original construction of the building 14 years ago, MC products were again in demand.

But let's go back a few years: in 2003, Baskerville House was built as part of the Riverside Business Park on New Bailey Street in Manchester. At that time, the exterior façade was pigmented with Betonflair W, the carbonation-resistant surface protection system from MC. This was one of the first major projects of the still young MC Building Chemicals, and a contract that won considerable accolades. Since that time, MC product systems have become established solutions for projects undertaken by the British real estate company Bruntwood, which was also the client for the 2003 new build.

Teamwork between proven partners

The company recently committed to completely modernising Baskerville House in downtown Manchester. Since

all windows of the building were to be replaced as part of the project, Bruntwood also decided to revise the colour scheme of the façade. Hardisty CRN Ltd., a renowned specialist in the northwest of England for the rehabilitation and protection of concrete, was selected as the applicator.

Façade renovation with MC-Color

As was the case more than a decade ago, an MC surface protection system was chosen by the client for the renovation of Baskerville House. They opted for MC Color, an improved, modern system that has been used as a replacement for the Betonflair products since 2016. It consists of three product lines: MC-Color Proof, MC-Color Flair and MC-Color Flex. There are a total of nine graded variants which, in addition to excellent technical performance properties, offer optimised



processing and application characteristics. In the case of Baskerville House, MC-Color Flex was used as the ideal pigmented, flexible coating offering concrete protection and crack bridging on the exterior, weather-exposed surfaces. Its excellent crack-bridging properties have been confirmed in numerous tests.

Quality and cost-efficiency

The desired colour change of the façade had already been achieved with MC-Color Flex after just two layers. Work on Baskerville House, which began in June 2017, was therefore completed well on schedule by the end of August 2017. The building now appears fresher and more contemporary, with both the applicator and the client delighted at the results produced by the high-end coating. The project is also a prime example

of the effective teamwork that can be achieved between well-coordinated partners.

For Kenneth MacLeod, the project was a new experience in a career at MC Building Chemicals spanning 20 years: "For the first time, I came across a building that I had already worked on before," the Sales Manager reports, adding with a grin: "That made many people smile – and I suddenly felt rather old."

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The floor coating work in the P3 Mikado multi-storey car park in Amsterdam was completed in just five days.

Rapid car park refurbishment

The P3 Mikado multi-storey car park in downtown Amsterdam is one of the most expensive of its kind in the Netherlands. This was reflected by the operator's interest in keeping downtime as low as possible during a necessary partial refurbishment. Just the job for MC product systems specifically formulated for quickly repairing multi-storey car parks and underground garages.

When renovation of the expansion joints and the floor and wall coatings in the centrally located P3 Mikado multi-storey car park was due in mid-2015, the clients, the Amsterdam maintenance management and engineering firm Intures BV, insisted on quick-acting systems in order to minimise downtime.

Fast, faster, MC-Floor TopSpeed

The initial situation was not ideal: a floor covering that was too slippery, water ingress through the expansion joints and an overall picture that

left the client feeling rather insecure. However, MC offers particular expertise in this field, with its product systems having extensively proven themselves in the repair of multi-storey car parks and underground garages requiring a variety of different refurbishment solutions. Two injection resins from the MC-Injekt family were used to seal the expansion joints, and an MC surface protection system was employed for wall refurbishment and coating. For the repair of the floors, the client and planning engineers opted for

the rapidity offered by the high-end MC-Floor TopSpeed pigmented roller-coating system.

Following the surface preparation work, the substrate was coated with the transparent epoxy resin MC-DUR 177 WV-A, followed by two layers of anti-slip MC-Floor TopSpeed, a combination that ensures high abrasion resistance and outstanding scratch resistance. Above all, MC-Floor TopSpeed offers fast application with accelerated curing, even under adverse weather conditions. As a result, all

the coating work covering an area of 14,000 square metres was completed within just five days! It created one more satisfied customer who is now thoroughly convinced that floor refurbishment in an enclosed car park does not have to be unduly time-consuming or cost-intensive. And with a sparkling new floor, the facility was able to quickly return to generating revenue for its owners.

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MC Facebook fan page now online

Mid-November 2017 saw us go online with our official German Facebook fan page! Our aim is to inform our customers, clients and employees, as well as students, school children, job-seekers and stakeholders in a brief, concise and engaging

manner. So why not become a fan yourself and follow us on Facebook!

To visit our German fan page:
<https://www.facebook.com/MC.Bauchemie.Deutschland>



New high-performance grouting mortars

MC-Bauchemie has recently launched two new high-performance grouting mortars onto the market in the form of Emcekrete 70 F and Emcekrete 100 F, both offering outstanding flowability combined with high strength values, low shrinkage and exceptional resistance.

They are based on an innovative binder matrix developed by MC that promotes high flexural and compressive strength together with a high degree of compactness and thus exceptional resistance and durability. The ideally coordinated particle grading of the two grouting mortars with their microfine fractions results in optimised packing densities down to the micron range.

Emcekrete 70 F for high early and final strength values combined with an attractive finish

Emcekrete 70 F is a highly flowable, low-shrinkage grouting mortar which achieves both high early and high final strength values. It is ideal for the grouting of precision machinery, power generating plant and machine foundations for units such as turbines, generators, compressors and motors. However, because of its aesthetically



Because of its fine, aesthetically attractive surface quality and easy workability, Emcekrete 70 F is ideally suited to the manufacture of small crafted concrete products such as the tea light holder and wardrobe element illustrated here.

attractive pigmentation capabilities and surface finish, Emcekrete 70 F is also suitable for the manufacture of small crafted concrete products such as washbasins, lamps, candelabras and even concrete jewellery.

Emcekrete 100 F for ultra-high final strength values

Emcekrete 100 F exhibits ultra-high final strength values, rising to over 120 N/mm² after 28 days and, like Emcekrete 70 F, is ideal for grouting precision machinery etc. In addition, this high-performance mortar is particularly suitable for the grouting of wind power generators.

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New line of adhesion promoters

The new MC-Estribond series from MC comprises three separate products in the form of bonding agent MC-Estribond MB and primers MC-Estribond T 15 and MC-Estribond NA.

They offer applicators a simple system approach encompassing alternative adhesion promoters able to match virtually all types of screed and substrate encountered in building construction. Comprised entirely of solvent-free, single-component products, the range excels through easy handling and application enhanced by a high yield ratio. The component products are environmentally sound, quick to apply and functionally reliable.

The mineral match for composite screeds

Formulated as a mineral bonding

agent for cementitious substrates, MC-Estribond MB is particularly suitable for application on composite screeds. It ensures optimal bonding of the cement screed or concrete to mineral substrates.

The allrounder for highly absorbent substrates

MC-Estribond T 15 is a deep-penetration liquid primer developed for highly absorbent cementitious wall and floor substrates. With it, dusty and sandy surfaces are reliably consolidated to greatly reduce their absorbency.



MC-Estribond NA is used on non-absorbent and very smooth substrates and even provides a reliable bonding surface on tiles for subsequent coating.

The strong bonder for very smooth substrates

MC-Estribond NA is a viscous adhesive primer that is used for non-absorbent and very smooth surfaces on which conventional bond coats do not adhere and which normally have to be sanded. This is not necessary with MC-Estribond NA because the

stabilising sand it contains provides an optimal bonding surface ready for the next coating.

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For further information, please go to our website: www.mc-bauchemie.com





Strabag and MC-Bauchemie win first prize for UHPC concrete

SAVT, the Slovakian branch of ERMCO (European Ready Mixed Concrete Organization), this year ran a competition for ultra-high-performance concrete (UHPC) developed with classic raw materials and aggregates but with no additives or admixtures allowed. Before an audience of some 240 attendees at its Concrete Conference held at the beginning of October 2017, SAVT declared Strabag AG and MC-Bauchemie the winners. Together, they had developed the strongest concrete with a compressive strength of 147.4 N/mm², thus prevailing over their major competitors.

For further information,
please go to:
<http://bit.ly/2jktfhk>



MC 'Iron Men' successful in Cologne

Christian Wiechers (photo right), Head of the Bitumen Laboratory in Bottrop, and Christian Fyrk (left), Bitumen Operations Manager in Bottrop, lined up at the start of the Cologne Ironman Triathlon on 3 September 2017.

The keen triathletes met the challenge with flying colours, proving their "mettle" as genuine men of steel! Christian Fyrk completed the course, comprising a 3.8 km swim, 180 km cycle ride and 42.2 km marathon, in a time of 11:48:19 hours and finished 5th in his age group (M 35). Christian Wiechers crossed the finish line with a smile after 14:21:27 hours and finished 7th in his age group (M 50). We take our hats off to the pair of them!



Long-service award recipients at MC-Russia

On 21 November 2017, Alexander Mondrus, Managing Director of MC-Russia, congratulated eight employees on their 10th anniversary at MC in Russia. From left to right: Valentina Boganovskaya, Evgeniy Kunitskiy, Igor Mihailov, Anton Apalihin, Alexander Mondrus, Andrey Kuznetsov, Tatyana Presnova, Yulia Tanenkova and Andrey Bazhanov.



Congratulations to our long-service awardees

On 7 December 2017, our executive management invited this year's long-service awardees from the MC group of companies to a traditional celebratory evening in Bottrop-Kirchhellen's Gasthof Berger restaurant. Dr. Claus-M. Müller was joined for the first time by his son, Nicolaus, with each taking time to chat with – and express their appreciation to – the various award recipients. Dr. Müller thanked all those celebrating either their 10th or their 25th anniversary, many of whom had travelled from various European countries,

for their loyalty and hard work on behalf of the company. He also presented them with a gift in recognition of their dedication. Honoured and gratified, the awardees were visibly pleased to receive both the kind words and the gifts. After the ceremony, the rest of the evening was given over to a delicious 3-course dinner enjoyed in an informal atmosphere. Around the same date, similar long-service award celebrations were held at other MC locations across the world.



10-year anniversary

Kalina Ninova (BG)
Jan Hasman (CZ)
Iva Kaslová (CZ)
Milan Řičica (CZ)
Andreas Bartke (D)
Tobias Furche (D)
Thomas Geßner (D)
Björn Kracht (D)
Sebastian Leying (D)
Alexandra Liersch (D)
Christoph Lohbeck (D)
Mirjana Marijić (D)
Paulo Parente de Sá (D)
Rebecca Sprenger (D)
Lars Zschaler (D)
Isabel Safranez (ES)
Zoltán Csik (HU)
Csanád Kamondi (HU)
Péter Kirinovics (HU)
Zsolt Béla Sebestyén (HU)
Roland Vászics (HU)
Alan Duffy (IRL)
Krzysztof Chinczewski (PL)
Honorata Chlebowska (PL)
Kamila Dobrucka (PL)
Ptryk Drapiński (PL)
Błażej Fryc (PL)
Henryka Głębocka (PL)
Adam Gonera (PL)
Katarzyna Gorczyca (PL)
Marta Kopka (PL)
Krzysztof Krawczyk (PL)

Jacek Krótkowski (PL)
Marek Kujawiński (PL)
Krzysztof Moskal (PL)
Marcin Mroczek (PL)
Tomasz Olgrzymek (PL)
Damian Roszczyk (PL)
Robert Stangierski (PL)
Tomasz Sumiński (PL)
Tomasz Tomaszewski (PL)
Rafał Walenciak (PL)
Michał Witkowski (PL)
Albert Wolski (PL)
Małgorzata Żebrowska (PL)
Nuno Silva (PT)
Denis Grigoryev (UA)
Oksana Kolomiets (UA)
Tetiana Korotyutcka (UA)
Volodymyr Prystay (UA)
Olga Romanjuk (UA)
Julia Zenchenko (UA)

You can find our long-service award recipients at MC-Russia on page 14.

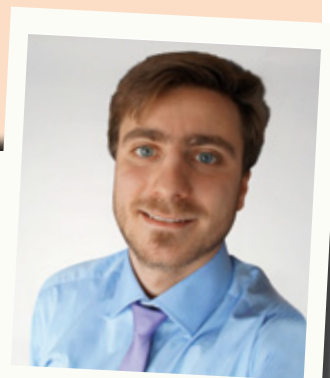
25-year anniversary

Meinrad Suppiger (CH)
Mustafa Baycan (D)
Marko Bergmann (D)
Christian Dlugi (D)
Klaus von der Fecht (D)
Norbert Franke (D)
Peggy Gerber (D)
Dariusz Grabinski (D)
Armin Hild (D)
Rolf Höfer (D)
Günther Janßen (D)
Askin Kasıkcı (D)
Mario Kochert (D)
Helmut Michel (D)
Steffen Osterloh (D)
Thomas Osterloh (D)
Birgit Riecks (D)
Andreas Röbner (D)
Waldemar Samsel (D)
Heinz Schäfer (D)
Klaus Schindler (D)
Michael Schittkowski (D)

Frank Schöntaupe (D)
Dieter Schubert (D)
Mike Schweitzer (D)
Hubert Seiferth (D)
Erich Stanulczyk (D)
Markus Walter (D)
Reinhold Zeitler (D)
Sybille Zoller (D)
Julio Canuto (ES)
Jose Antonio Garcia (ES)

Welcome to the team New employee at MC

Michał Kania (26) has been working in the chemical development laboratory in Poland since 1 June 2017. A graduate chemical engineer, he previously served a globally active cement and building materials manufacturer in Switzerland.

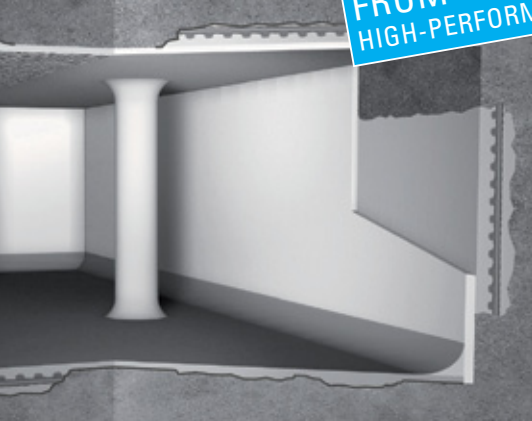




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Potable water reservoirs must be designed and operated in such a way that the quality of drinking water is not adversely affected either in taste, odour and colour nor in microbiological aspects. And these same principles also apply in the case of repairs. New MC-RIM PW system products have been especially developed for the exacting demands of potable water reservoirs, offering maximum safety coupled with long-term protection for our most important life resource.

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CONCRETE REPAIR & SURFACE PROTECTION

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