



# Admixture Systems

from Master Builders Solutions





# Master Builders Solutions

## Master Builders Solutions

The Master Builders Solutions brand brings all of expertise together to create chemical solutions for new construction, maintenance, repair and renovation of structures. Master Builders Solutions is built on the experience gained from more than a century in the construction industry.

The know-how and experience of a global community of construction experts form the core of Master Builders Solutions. We combine the right elements from our portfolio to solve specific construction challenges. We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide. We at Master Builders Solutions leverage global technologies, as well as our in-depth knowledge of local building needs, to develop innovations that help make more successful and drive sustainable construction.

Market leading products are developed from technically advanced formulations, optimized for the harsh environmental conditions found in the Middle East.

## Our Comprehensive Portfolio

- Concrete admixtures
- Cement additives
- Chemical solutions for underground construction
- Waterproofing solutions
- Sealants
- Tile fixing systems
- Concrete repair and protection solutions
- Performance grouts
- Performance flooring solutions
- Wall systems
- Fire protection systems





# The partnership solution

## Having the right admixture partner

is vital to the success of any concrete producer. Master Builders Solutions is recognised as the global leader in the field of Admixture Systems and has been providing intelligent solutions to the construction industry since the early 1900s.

Admixture Systems from Master Builders Solutions, which began with the invention of air-entraining admixtures for concrete has been the leading driver of the concrete industry through several innovation cycles, while creating breakthroughs with state-of-the-art technology such as MasterGlenium. We have developed innovative products for various concrete applications including high performance concrete, high strength concrete, self-compacting concrete, durable concrete, waterproof concrete and a host of other solutions to meet market needs. For over a century, we have worked closely with customers to provide intelligent solutions for every stage of the construction cycle.

For engineers, developers, contractors, builders, architects and other end users, our products in the Admixture Systems offer innumerable benefits. To name a few:

- reliability of concrete products
- durability
- corrosion resistance
- reduced permeability
- improved resistance to chemical attack
- effective placement of concrete in extreme weather conditions
- underwater placement of concrete

Our admixtures are used in world's most recognizable projects - including Petronas Towers, Taipei 101, The Burj Khalifa and more recently, The Freedom Tower in New York - and architectural challenges such as the Al-Masjid Al-Haram Extension at Makkah, Kingdom of Saudi Arabia and the Esplanade Theatres by the Bay in Singapore.

We address key issues for the construction industry in:

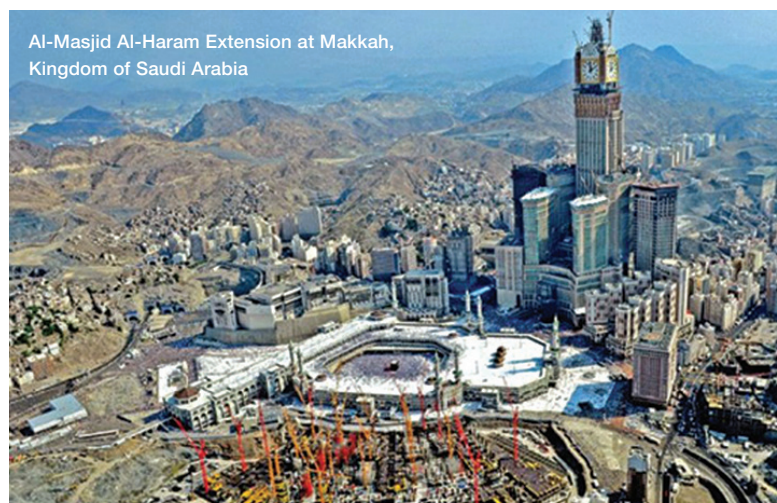
### Durability

Our state-of-the-art admixtures – MasterGlenium, MasterPolyheed and MasterRheobuild – have unique water-reducing properties and allow the use of optimised quantities of supplementary cementitious materials (e.g. slag, fly ash, micro silica). These help in achieving greater durability for critical structures through reduction of permeability, water absorption and resistance to chloride and sulphate attack. Appropriate admixture specialties such as MasterLife and MasterPel ranges further enhance the durability of concrete.

### Workability

MasterGlenium SKY or MasterPolyheed in combination with MasterMatrix can be used effectively to produce self-compacting concrete that eliminates the need for vibration and reduces manpower, while achieving high quality concrete with excellent finish.

Our capabilities to bring innovative solutions to the challenges faced by the concrete industry makes Master Builders Solutions the ideal partner for producers and designers alike.



Al-Masjid Al-Haram Extension at Makkah,  
Kingdom of Saudi Arabia





## Ready-mix

### The ready-mix business

is a diverse and demanding sector with its own requirements and challenges. Ready-mix operations are always local, with key factors such as financial resources and transportation playing a central role in decision making.

From the molecular level to the finished products, we equip our partners with leading technologies to meet the increasing performance and commercial demands of ready-mix industry. Our technical and site support services are always ready to advise, providing mix optimization services for maximizing the performance characteristics of concrete. Our product technology for the ready-mix environment includes:

#### MasterPozzolith

Hardening accelerator solutions for concrete in cold climates

#### MasterMatrix

Advanced rheology control for concrete

#### MasterGlenium

Solutions for high performance concrete

#### MasterSet

Solutions for set control

#### MasterPolyheed

Next generation superplasticizer for the production of high quality ready-mix concrete with low water cement ratio and enhanced rheology. MasterPolyheed is a range of latest generation superplasticizers formulated from unique polymers manufactured in-house by Master Builders Solutions.

#### MasterRheobuild

A high-range, water reducing superplasticizer that improve the properties of fresh and hardened concrete. MasterRheobuild allows the production of very flowable concrete, with a low water/cement ratio as well as reducing thermal peaks and permeability, add high workability for longer periods and ultimate strength, lower pumping pressure and improve the permeability of the concrete.

### MasterLife

Solutions for enhanced durability and solutions to extend the life-cycle of structures. Products include waterproofing and corrosion utilising admixtures.

Master Builders Solutions is committed to backing and supporting our customers in the evolution of the ready-mix industry. We work with our ready-mix partners to develop ready-mix concrete for local needs that is easier and safer to place with less manpower required. We enable you to offer your customers additional benefits beyond durability, sustainability and cost savings.







## Pre-cast

### In the pre-cast sector,

there is a unique set of constraints such as time pressure, environmental issues, employee safety, quality control and cost of energy-intensive production that impacts on the process-driven industry. Hence, to remain competitive, there is a constant need for overall process improvement to increase quality and productivity within tight production timeframes, while reducing costs.

Within the Admixture Systems team, our aim is to contribute to overall process improvement through technological innovation. To this end, we have developed key products such as MasterPolyheed and MasterGlenium ACE, which not only assist in the production process, but also improve the aesthetics and durability of concrete elements. A breakthrough for the pre-cast industry, our Zero Energy System can significantly reduce the energy required for precasting concrete elements by accelerating the hydration process without the need for external heat. Our Zero Energy System employs the exceptional performance of the MasterGlenium ACE molecule and Master X-Seed, as well as the self compacting concrete technology of our unique MasterMatrix viscosity

modifier to eliminate the needs for vibration and steam curing. Zero Energy System results in

- increasing productivity and quality
- reducing operational costs
- reducing environmental impact
- improving working conditions

Complementary products are available to assist in the striking of forms and moulds, as well as to improve the surface finishing of the concrete elements. The MasterFinish range of form release agents allows clean release of cast elements, reducing blow holes without any staining. We understand that you need to achieve consistent, high-quality concrete first time to produce durable building elements.

With our products for repair and rehabilitation, you can achieve consistent, high-quality concrete and produce durable building elements that meet your specific local conditions. From project conception through to completion, Master Builders Solutions offers realistic, reliable and professional solutions that set new industry standards in the pre-cast manufacturing process.





## Manufactured Concrete Products

### The Manufactured Concrete Products (MCP) industry

produces everything from paving stones and blocks to roof tiles, pipes and hollow-core slabs. Appealing designs and surfaces, reduced construction times and low cost in use are key benefits of MCP products and are essential factors for the material choice of end users. As a result, MCP producers offer a wide variety of shapes, textures and colors at competitive prices.

Our sales force visits MCP plants, analyses and defines in cooperation with the manufacturer the potentials for process optimization as well as the enhancement of the finished MCP products. Based on the findings of this analysis, the requirements for admixture products relating to economics, performance, aesthetics and durability are defined.

MasterCast optimizes the mix design, enhances tolerance to mixing water and consequently brings economic benefits.

MasterCast reduces the cycle time thus enhancing performance.

MasterCast controls efflorescence, and enhances colour vibrancy and uniformity for outstanding aesthetics.

MasterCast products provide water repellency and improve strength as well as freeze/ thaw and abrasion resistance, giving improved durability.

The MasterFinish range of auxiliaries, both water and solvent based, provides: clean production, safe and instant demoulding, excellent finishes and economic use. Especially the environmental friendly aqueous emulsions obtain increased importance.





## Key products at a glance

### MasterGlenium SKY/ACE

MasterGlenium is a new generation superplasticiser for concrete. It is specially formulated for ready-mix and pre-cast applications where slump retention, high/early strengths and durability are required in hot/cold climates and over long distances. MasterGlenium offers unrivalled technology with its versatility in high performance areas like self-compacting concrete, high strength concrete, low permeability/low water absorption concrete and low shrinkage application.

### MasterPolyheed

Next generation superplasticizer for the production of high quality ready-mix concrete with low water cement ratio and enhanced rheology. MasterPolyheed is a range of latest generation superplasticizers formulated from unique polymers manufactured in-house by Master Builders Solutions.

### MasterRheobuild

MasterRheobuild is specially designed to impart rheoplastic qualities to concrete and to improve the pumpability of fresh concrete.

### MasterCast

MasterCast products are especially engineered for the specific needs of MCP manufacturers. The R&D centres of Master Builders Solutions applied their advanced know-how in nanotechnology to develop new innovative molecules and formulations. MasterCast products consider the different chemicals and physical reaction in semi-dry concrete mixes and the complex interaction with a machine intensive environment.

### MasterPozzolith

MasterPozzolith is a ready-to-use liquid admixture that can plasticise, accelerate or retard concrete, improve its performance, making it more uniform and predictable. The admixture is used in pumped concrete and conventionally placed concrete in plain and reinforced conditions; to meet demands on low to medium grades of normal weight concrete.







# Master Builders Solutions for the Construction Industry

## **MasterAir®**

Complete Solutions for air entrained concrete

## **MasterBrace®**

Solutions for strengthening and structural adhesives

## **MasterCast®**

Solutions for the manufactured concrete product industry

## **MasterEase®**

Solutions for low viscosity concrete

## **MasterEmaco®**

Solutions for concrete repair

## **MasterFiber®**

Comprehensive solutions for fiber reinforced concrete

## **MasterFinish®**

Solutions for formwork treatment

## **MasterFlow®**

Solutions for precision grouting

## **MasterGlenium®**

Hyperplasticizer formulated from state-of-the-art polymers for the ultimate performance

## **MasterInject®**

Solutions for concrete injection

## **MasterKure®**

Solutions for concrete curing

## **MasterLife®**

Solutions for enhanced durability

## **MasterMatrix®**

Advanced rheology control solutions

## **MasterPolyheed®**

High-performance superplasticizer

## **MasterPozzolith®**

Solutions for water-reduced concrete

## **MasterProtect®**

Solutions for concrete protection

## **MasterRheobuild®**

Superplasticizer for concrete

## **MasterRoc®**

Solutions for underground construction

## **MasterSeal®**

Solutions for waterproofing and sealing

## **MasterSet®**

Solutions for set control

## **MasterSuna®**

Superplasticizer for problematic aggregates

## **MasterTop®**

Solutions for industrial and commercial floors

## **Ucrete®**

Flooring solutions for harsh environments

## Regional Office

### South Africa

MB Construction Chemicals Solutions (Pty) Ltd  
Head Office: Thandanani Office Park, Invicta Road  
Midrand, Johannesburg, South Africa  
Tel: +27 87 110 1095  
[www.master-builders-solutions.com/en-za](http://www.master-builders-solutions.com/en-za)

## Legal Entities - Middle East & Africa

### Algeria

[www.master-builders-solutions.com/fr-dz](http://www.master-builders-solutions.com/fr-dz)

### Egypt

[www.master-builders-solutions.com/en-eg](http://www.master-builders-solutions.com/en-eg)

### Kenya

[www.master-builders-solutions.com/en-ke](http://www.master-builders-solutions.com/en-ke)

### Morocco

[www.master-builders-solutions.com/fr-ma](http://www.master-builders-solutions.com/fr-ma)

### Near East

[www.master-builders-solutions.com/en-ae](http://www.master-builders-solutions.com/en-ae)

### Nigeria

[www.master-builders-solutions.com/en-ng](http://www.master-builders-solutions.com/en-ng)

### Oman

[www.master-builders-solutions.com/en-ae](http://www.master-builders-solutions.com/en-ae)

### Saudi Arabia

[www.master-builders-solutions.com/en-sa](http://www.master-builders-solutions.com/en-sa)

### South Africa

[www.master-builders-solutions.com/en-za](http://www.master-builders-solutions.com/en-za)

### United Arab Emirates

[www.master-builders-solutions.com/en-ae](http://www.master-builders-solutions.com/en-ae)

