



Admixture Systems

from Master Builders Solutions





Master Builders Solutions



The **Master Builders Solutions** brand brings all of its 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 your specific construction challenges. We collaborate across areas of expertise and regions and draw on the experience gained from countless construction projects worldwide. We leverage global Master Builders Solutions technologies, as well as our in-depth knowledge of local building needs, to develop innovations that help make you more successful and drive sustainable construction.

The comprehensive portfolio under the Master Builders Solutions brand encompasses concrete admixtures, cement additives, chemical solutions for underground construction, waterproofing solutions, sealants, concrete repair & protection solutions, performance grouts and performance flooring solutions.

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, they are:

- 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 Tower, Taipei 101, The Burj Khalifa and more recently, The Freedom Tower in New York - and architectural challenges such as the Three Gorges Dam in China 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 that further enhance the durability of concrete.

Flexibility

Our latest innovation based on MasterSure® (Super Retention Technology) has revolutionised ready-mix and pre-cast applications. With no impact on the setting times of concrete, MasterSure allows workability retention of concrete over longer periods (2 hours or more) and can be used either as an integrated or a stand-alone product.

Workability

MasterGlenium® SKY and MasterMatrix® formulations 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.



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:

MasterGlenium SKY

solutions for hyperplasticized and self consolidating concrete

MasterPolyheed

solutions for high performance concrete

MasterMatrix

advanced rheology control solutions for self-consolidating concrete

MasterSet

solutions for retardation control, also include a wash water system that facilitates best-practice environmental waste control for 'zero waste production'

MasterPozzolith

water reducers for concrete

MasterRheobuild

for superplasticized concrete

Total Performance Control™ is the latest concept to evolve from our creative approach to ready-mix. This generation of polymers delivers high early strength and extended slump retention even in low water / cement ratio concrete. With the advent of this new-generation MasterGlenium SKY admixture, Admixture Systems from 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 are 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 from Master Builders Solutions, our aim is to contribute to overall process improvement through technological innovation. To this end, we have developed key products such as MasterRheobuild 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 consolidating 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.



Underground construction

The underground construction business, covering the mining and tunneling markets, has seen rapid changes in sprayed concrete technology. The introduction of the wet-mix system has changed application techniques and equipment. Furthermore, the mechanical properties of the concrete have changed with the addition of steel and plastic fibers.

As the world's leader in the provision of unique, tailored solutions for underground construction, Master Builders Solutions accompanies our customers for the entire duration of their projects with products and technical expertise.

Our key products within this sector are MasterRoc®, developed to perform in all underground conditions - in soft or hard rock using either the drill & blast or tunnel boring machine method.



Cement additives

The tremendous growth of and changes in the cement industry over the past decade has led to an increasing demand for economically and ecologically sustainable quality cement.

Our latest cement additive, MasterCem®, is specially formulated and designed for the most demanding cement manufacturing requirements.

Our range of cement additives enables cement manufacturers to produce cements of various types at more economical costs while meeting specific performance characteristics. Cement additives in our range are available as high performance grinding aids, pack-set inhibitors, quality enhancers, strength enhancers and air entraining additives for masonry cements.



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

MasterPolyheed is a non-chloride, mid-range water-reducing admixture formulated to ensure superior workability and finishing. It improves concrete performance with a wide range of cements, fly ashes, granulated slags, and aggregates (including coarse and manufactured sands).

MasterRheobuild

MasterRheobuild is specially designed to impart rheoplastic qualities to concrete and to improve the pumpability of fresh concrete. A rheoplastic concrete is a fluid concrete with a slump value of at least 200 mm or higher, that flows easily, but at the same time is free from segregation, and has the same water / cement ratio as that of a no-slump concrete without admixture (superplasticiser).

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 concrete strengthening

MasterCast®

Solutions for the manufactured concrete product industry

MasterCem®

Solutions for cement manufacture

MasterEmaco®

Solutions for concrete repair

MasterFinish®

Solutions for formwork treatment

MasterFlow®

Solutions for precision grouting

MasterFiber®

Comprehensive solutions for fiber reinforced concrete

MasterGlenium®

Solutions for hyperplasticized concrete

MasterInject®

Solutions for concrete injection

MasterKure®

Solutions for concrete curing

MasterLife®

Solutions for enhanced durability

MasterMatrix®

Advanced rheology control solutions for self-consolidating concrete

MasterPel®

Solutions for water tight concrete

MasterPolyheed®

Solutions for high performance concrete

MasterPozzolith®

Solutions for water-reduced concrete

MasterProtect®

Solutions for concrete protection

MasterRheobuild®

Solutions for superplasticized concrete

MasterSeal®

Solutions for waterproofing and sealing

MasterRoc®

Solutions for underground construction

MasterSet®

Solutions for retardation control

MasterSure®

Solutions for workability control

MasterTop®

Solutions for industrial and commercial floors

Master X-Seed®

Advanced accelerator solutions for pre-cast concrete

Ucrete®

Flooring solutions for harsh environments

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