



# MasterSeal

Solutions for waterproofing  
your structure

 **BASF**

We create chemistry



# Master Builders Solutions from BASF

## Master Builders Solutions

The Master Builders Solutions brand brings all of BASF's 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 BASF 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 BASF 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, performance flooring and tiling solutions.





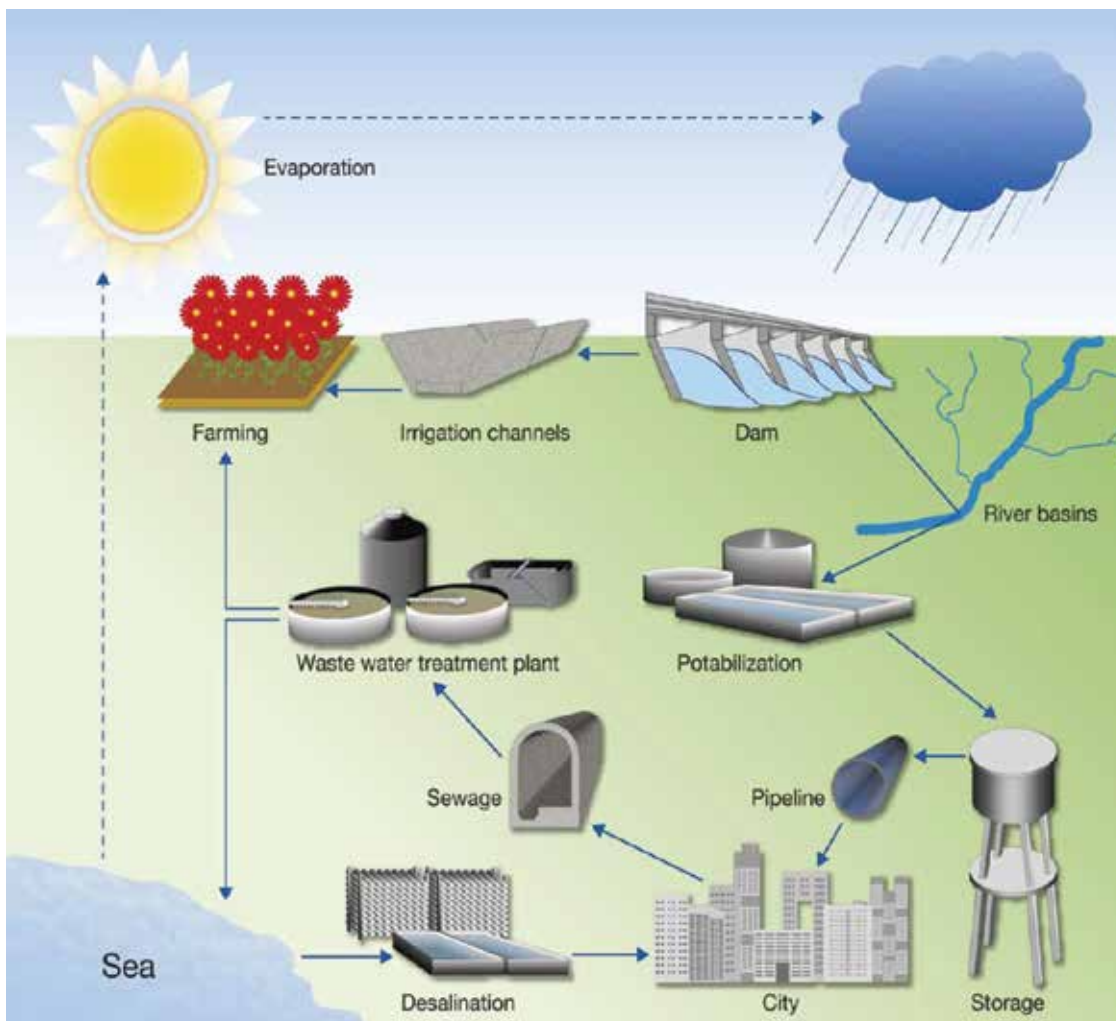
# Solutions for the Water Management Industry

## Water is Life

Sustainability of key resources is one of the core beliefs within BASF and effective water management has been identified as one of the fundamental requirements to support our future health and prosperity. The MasterSeal range of waterproofing products and systems provides high performance characteristics and compliance with international standards

required for use within the water management sector. In addition to supplying the solutions BASF approved applicators follow intensive and continued training programs to ensure reliable and professional application. The use of approved BASF applicators is a pre-condition required for the provision of the BASF warranty for our multi-component systems.

## Water management following the water cycle:





# Solutions for Water Containment Structures and Reservoirs

## Safe and secure water storage

Whether it is utility or decorative containment, BASF has the systems and solutions to suit all needs. Dams, fountains, canals, ponds, swimming pools and aquaculture have special needs that are addressed using the solutions that we offer.

Tiled finishes, aesthetics, robustness and anti-bacterial surfaces growth are some of the considerations for these types of construction. Pre-formed membranes, cementitious waterproofing and spray applied liquid coatings are just some of the technologies that provide assistance with the waterproofing of these structures. They are complimented by a host of tile installation products and resins for injection or grouting. Joint treatment with active and interactive products, gives the capability to avoid the common causes of failure associated with traditional methods.





# Solutions for Below Ground, Civil Engineering and Building Structures



## For underground construction

BASF provides watertight solutions provide permanent protection against ground and surface water, harmful substances (liquid and gaseous) and prevent root penetration.

From cut-and-cover tunneling to secondary containments and basement structures, we have the answer. Our systems are complemented by a full range of BASF products for joint protection and concrete repair, allowing you the convenience of sourcing a full suite of products from one supplier.

Our systems incorporate the use of preformed or liquid applied membranes, including a variety of resin technologies to treat the joints and piles. Concrete admixtures add to the quality of concrete that supports the systems and the durability of the structure in very demanding conditions.

Master Builders Solutions for waterproofing from BASF are durable in the harshest conditions of exposure and can accept typical movements in the substrate without compromise.

When properly applied, our systems will prevent the passage of water into or out of structures or buildings. Building basement, cut and cover or drill and blast tunnels, TBM shafts and underground reservoirs are some of the typical situations which need a waterproofing solution in day to day construction.

The PVC membrane system can be upgraded to include a second layer providing a unique capability to repair the system by resin injection during the working life of the structure.





## Proven Excellence

### Burj Khalifa

The Burj Khalifa officially opened on 4th January 2010. The centerpiece for a new world capital, it has lived up to the hype: it now stands over 800 meters tall, the tallest building in the world. Ensuring durability of the concrete structure was crucial to achieve the 100-year design life of the building.

BASF utilized its local presence and global track record to recommend a single source waterproofing solution to meet the needs of this world class, record breaking structure.

“Engineered systems often have to be developed at short notice as construction progresses and problems are encountered. As construction of the Burj was fast tracked, the local support provided by BASF personnel proved invaluable. It was truly a case of global experience and local expertise combining to deliver service and solution excellence.” – Dick Purchase, Vice President BASF Construction Chemicals Division, Middle East, West Asia, CIS & Africa.

### Smart Village in Cairo Egypt

The Smart Village in Cairo, Egypt is a flagship technology and business park that covers over 3 million square meters. In the centre of the development, surrounded by a 25,000m<sup>2</sup> lagoon is an entertainment and business hub comprising a number of restaurants, show rooms, internet cafes and conference rooms. The waterproofing liner for this artificial lake is 1.2mm Thermo Polyolefin (TPO) membrane installed by BASF approved installers.



### Dubai International Airport Expansion, Phase II

The terminal building is underground and subject to a water pressure > 3 bar. The terminal building has a concourse on the air side and a car park on the land side. The area in between is a taxiway for aircrafts including the new Airbus 380's which will load the structure with a weight > 500 tons each.

The project specification required a loose laid passive synthetic membrane to allow movement in the substructure over time. The membrane had to have a capability to be tested and inspected before placement of concrete. The structure needed to be compartmentalized to restrict the spread of leaks if they occurred.

The structure needed a curative system in place which would assist speedy rectification, with the minimum disruption. Most of all the requirement was to provide a system from a single source to ensure that the various elements of the system worked in harmony.

Logistics management was critical in the supply of close to one million square meters of waterproofing and accessories, to meet the challenging construction schedules.

MasterSeal 900 re-injectable hoses and MasterSeal 901 resin were the products of choice for the curative measures, this joint protection system was the only one that successfully demonstrated the capability to be re-injected. The resin has been used successfully to control the leaks in numerous structures worldwide.

The membrane is synthetic PVC, to allow increased resistance to damage as the structure settles or moves.

The welding of PVC waterstops to the waterproofing membrane provides the capability of compartmentalizing the loose laid waterproofing membrane.

The MasterSeal 914 epoxy grout was used to cap the pile heads and sandwich the membrane. This allows movement at the interface of the pile head and the structure. The MasterEmaco S 466 Cementitious repair grout was used to reprofile and repair the pile heads, because of its superior flow characteristics and strength.



## Complete Solutions for Roofing



### Secure and reliable synthetic roofing membranes

Inadequate roofing can affect not only a structure's functionality but its maintenance and whole-life cost, with far-reaching implications for the building's durability.

BASF's range of preformed TPO and PVC roofing membranes can be exposed or covered and provide:

- easy installation
- environment and temperature resistance
- increase in life expectancy and reduction of life cycle costs

With the reassurance of BBA and EOTA approval, you can rely on BASF to protect your structure against the elements for a longer service life.

The systems are designed for installation on most substrates, including old concrete, built-up felt, asphalt, timber and metal substrates. Advice on preparation and application to specific substrates is available from BASF. We will work closely with you to produce the best specification to meet your particular requirements.

Our waterproofing systems are available with finishes in a wide range of colors for aesthetic appeal. Flexible membranes with metal additives are also available to give you a copper or silver effect roof.

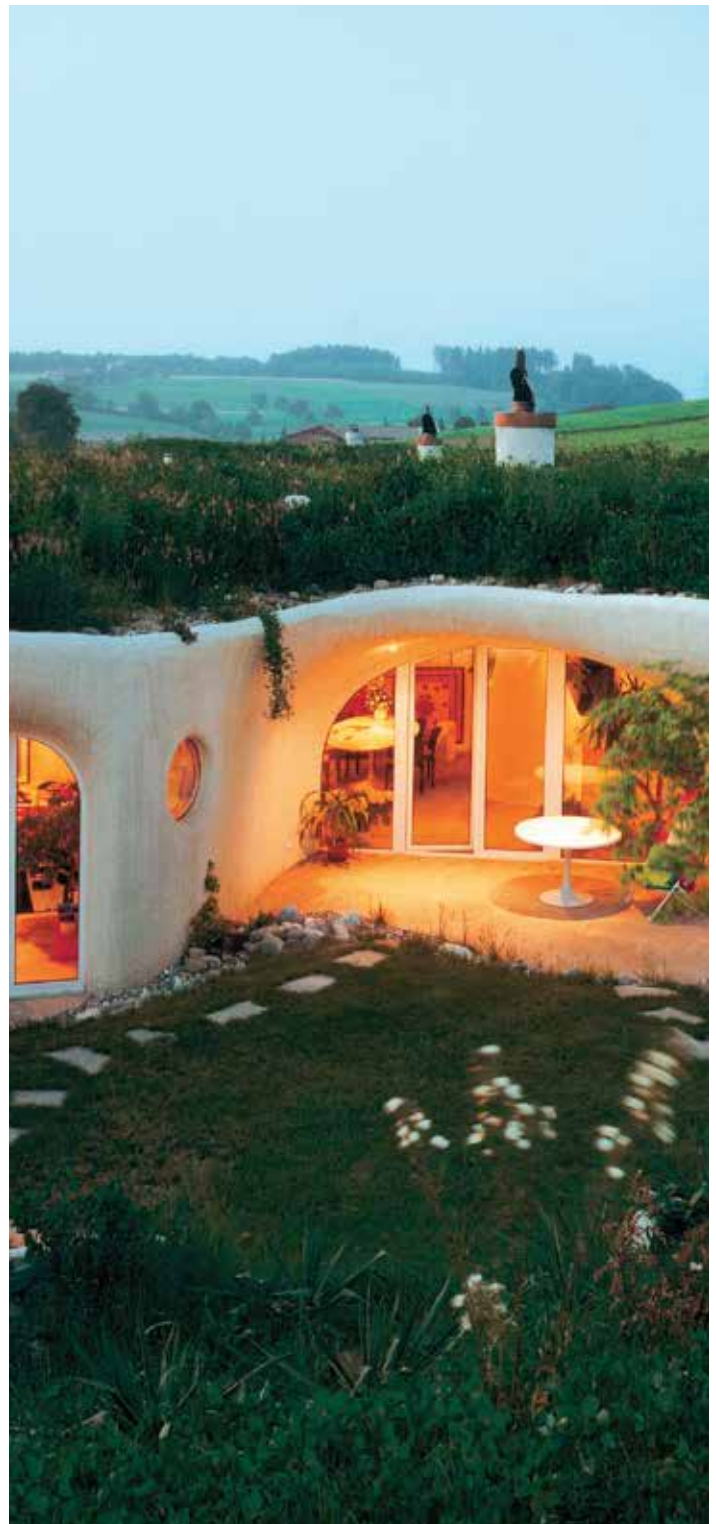




### Solutions for spray applied roofing membranes

Under Master Builders Solutions the MasterSeal range of spray applied membrane systems are designed to protect roofs from the harsh environment even in locations where extreme thermal changes are encountered. MasterSeal roofing solutions are suitable for flat or pitched roofs and are compatible with concrete, plywood, metal sandwich panels and other common roofing substrates. The use of liquid applied spray membranes enables fast installation to vertical surfaces and easy waterproofing of detailed penetrations such as ventilators, skylights and chimneys. With the advantage of being seamless and able to resist root penetration, the membranes are perfect for roof gardens and other landscaping above occupied areas. The MasterSeal range of membranes can be used to refurbish old roofs without the necessity of removing existing membranes by spraying over the in-situ waterproofing, providing a simple maintenance solution. The membranes are fully bonded to the substrate and are able to resist the effects of wind suction, elevated temperature, thermal shock and can accommodate minor structural movement.

Our experts can work with the designer and owner to determine the appropriate system for a long term solution and, with our network of trained applicators, ensure that the structure is correctly waterproofed. The use of spray applied membranes has meant that many complex projects have been waterproofed thanks to the innovative systems from BASF.





## Solutions for car parking structures



### Durable and attractive parking deck protection

BASF has developed systems for the protection of parking decks after thoroughly studying the design of car parks and the performance of the protective systems that previously had been available. The MasterSeal system we created addresses three key challenges that greatly impact the sustainability of a car park.

- Flexibility: MasterSeal membranes can accommodate the dynamic and thermal movements from the large spans found in parking structures.
- Protection: MasterSeal membranes protect the structure from contaminants such as de-icing salts and vehicle fluids.
- Safety: MasterSeal membranes can incorporate slip resistant grains to provide the required grip for tyres.

All are accomplished while being aesthetically pleasing.

MasterSeal car park solutions are suitable for all parking garage applications - from condominiums to the largest shopping malls. The designer's system selection will depend upon a number of criteria including, expected service life, climatic conditions, the level of traffic flow, the amount of vehicle movement over the lifetime of the structure and budget constraints. Our sales personnel are trained to evaluate this information to determine the best solution for the structure.

Inevitably car parks wear out and require maintenance. One of the most important needs for the car park owner or operator is the speed of their repair. Should maintenance work inconvenience the user there is the risk that alternative parking solutions will be found. MasterSeal eliminates this issue by virtue of its fast cure range of primers, membranes, wear coats and topcoats. Using MasterSeal allows the complete reinstatement of the full system and return to traffic after only 12 hours.



## Solutions for filling gaps



### Sealants solutions for complete protection

Waterproofing solutions are not complete until all of the potential leak points have been sealed. The MasterSeal range of engineering sealants provides construction professionals with a comprehensive selection of high quality elastomeric joint sealants, designed to provide durable solutions and optimal application properties on site. MasterSeal joint sealants are suitable for applications ranging from everyday hygiene use in bathrooms or kitchens to the most demanding civil engineering environments. The MasterSeal joint sealants range provides the final piece in the waterproofing puzzle allowing BASF to provide the complete solution for all of our customers waterproofing needs.



# Master Builders Solutions from BASF 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 mid-range concrete

## MasterPozzolith

Solutions for water-reduced concrete

## MasterProtect

Solutions for concrete protection

## MasterRheobuild

Solutions for high strength concrete

## MasterRoc

Solutions for underground construction

## MasterSeal

Solutions for waterproofing and sealing

## MasterSet

Solutions for set control

## MasterSure

Solutions for extraordinary workability retention

## MasterTop

Solutions for industrial and commercial floors

## Master X-Seed

Advanced accelerator solutions for concrete

## Ucrete

Flooring solutions for harsh environments

## MasterTile

Solutions for tile fixing system

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