



## MasterSeal M 689

A 100 % Pure Polyurea  
Membrane for Waterproofing  
in Industry and Infrastructure



Our refernce in Warsaw (Poland)  
Aquarium Zoo Warsaw

## Contents

- 03 \_ Master Builders Solutions
- 04 \_ What is MasterSeal M 689 and what makes it so Special?
- 05 \_ Where to use MasterSeal M 689?
- 06 \_ What are the Main Properties of MasterSeal M 689?
- 08 \_ Approvals and Certificates
- 09 \_ System Layout
- 10 \_ Risk Management – Master Builders Solutions System Products for Successful Projects



# Master Builders Solutions

The Master Builders Solutions brand brings all of our 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 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, solutions for underground construction, waterproofing solutions, sealants, concrete repair & protection solutions, performance grouts, performance flooring solutions and solutions for on- and offshore wind energy.

## Our comprehensive portfolio

- Concrete admixtures
- Cement additives
- Chemical solutions for underground construction
- Waterproofing solutions
- Sealants
- Concrete repair and protection solutions
- Performance grouts
- Wind turbine grouts
- Performance flooring solutions





## What is MasterSeal M 689 and what makes it so Special?

MasterSeal M 689 is a low density and low viscosity 100% polyurea membrane. Its exclusive properties, make MasterSeal M 689 a highly versatile product that can be used in several applications, and especially the most demanding ones, where waterproofing capacities have to be combined with resistance to chemicals dissolved in water.

### Main benefits:

- High elasticity, crack-bridging and high mechanical resistance.
- Improved durability and long term performance.
- Application to horizontal surfaces and detailing in only one step. Faster completion.
- High resistance to wearing and erosion. Surface can be directly exposed to mechanical loads.
- Fully bonded and monolithic – no laps, welds or seams – no risk of infiltration by water.
- Spray application 1:1 – suitable for most internationally available, two component spray equipment.
- Very fast curing. Immediate serviceability.
- According to European regulations
- UV-stability allows faster finishing
- Wide application window for outdoor

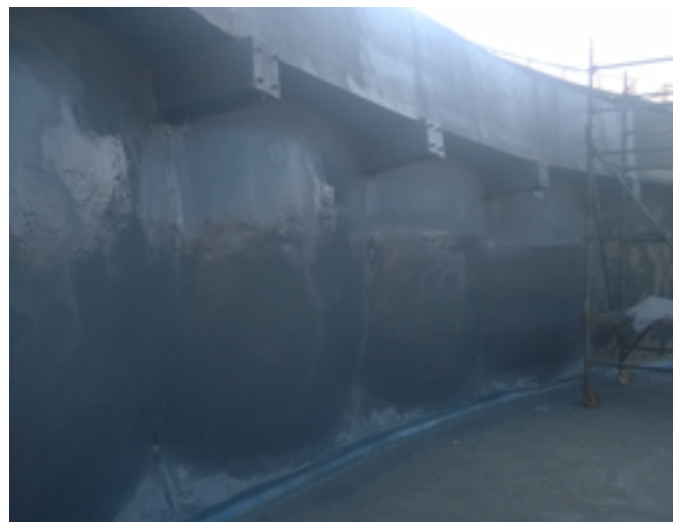
### Main advantages:

- high mechanical resistance
- high chemical resistance
- high thermal resistance
- high impact resistance
- high elasticity/crack-bridging properties
- watertight – but open for vapour diffusion

... and all this in one combination!



Application on complex substrates



Application in harsh environments



## Where to use MasterSeal M 689?



### Secondary Containment

Where MasterSeal M 689 offers a highly durable membrane that can be applied both indoors and outdoors, with long term chemical resistance and maintained elasticity.



### Industrial Waterproofing

Where high chemical resistance of MasterSeal M 689 offers an effective protection against corrosive vapors and chemicals that could damage concrete and steel structures.



### Waste Water Treatment Plants

High mechanical resistance against impact and abrasion as well as chemical resistance against acids, makes MasterSeal M 689 an excellent waterproofing option for areas exposed to incoming wastewater.



### Roofs

MasterSeal M 689 can be applied on roofs with complicated shapes. Its high resistance to UV and weathering allows the use of the membrane without topcoat where aesthetics is not a requirement.



### Parking Decks

MasterSeal M 689 applied in parking decks shows quick hardening and early serviceability, together with high mechanical resistance and skid resistance is achieved by controlled applied overspray.



### Other

MasterSeal M 689 can be applied in aquariums, architectural buildings, biogas plants, etc. where its waterproofing, elastic and crack-bridging properties ensure high durability and performance.



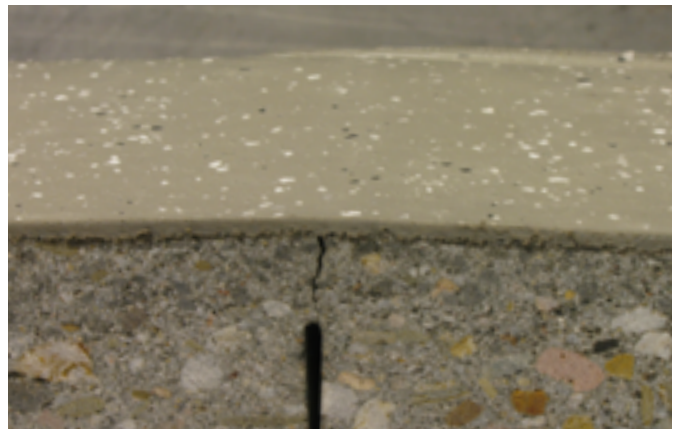
## What are the Main Properties of MasterSeal M 689?



### Fire resistance classification

According EN 13501-1 (for floors): C<sub>fl</sub> – s1

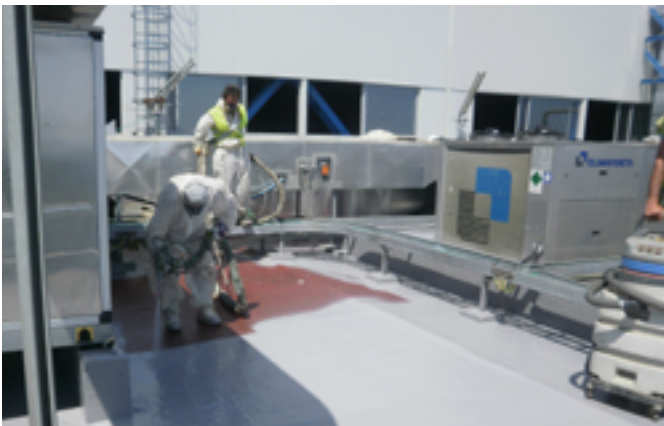
According EN 13501-5 (for roofs): B<sub>Roof</sub> – T4



### Static and dynamic crack-bridging

Static crack-bridging: EN 1062-7 (A)/Class A5 (+23°C)

Dynamic crack-bridging: EN 1062-7 (B)/Class B4.2 (–20°C)



### UV stable – does not need any additional topcoat

Even for exposed outdoor areas with chemical, mechanical stress.



### Easy application – even with difficult geometric areas

Industrial surfaces often mean complex shapes and areas with lots of penetrations and other details; too complex for hand applied waterproofing. MasterSeal M 689 spray application without the need for a topcoat, accelerates the completion of these projects.

### Chemical resistance (according EN 13529)

Group	Description	Result
DF 1	Gasoline	Class II
DF 2	Aviation fuels	Class I
DF 3	Fuel oil, Diesel fuel and other unused combustion motor oils	Class III
DF 4	All hydrocarbons as well as mixtures containing benzol with max. 5 Vol. %	Class I
DF 4b	Crude oils	Class III
DF 4c	Used combustion motor oil and used automotive transmission oil with a flash point > 55 °C	Class III
DF 5	Mono- and polyvalent alcohols (up to a max. 48 vol.-% methanol), glycol ethers	Class I (7d)
DF 5a	All alcohols and glycol ethers (incl. 5 and 5b)	Class I
DF 5b	Single and multi-valent alcohols ≥ C2	Class I (7d)
DF 7b	Biodiesel fuel	Class III
DF 8	Aqueous solutions of aliphatic aldehyde up to 40 %	Class I (7d)
DF 9	Aqueous solutions of organic acids (carboxylic) up to 10 % as well their salts	Class III
DF 10	Mineral acids (non oxidizing) up to 20% and inorganical salts in aqueous solution (pH<6) except HF	Class III
DF 11	Inorganic lye (except oxidizing) and inorganical salts in aqueous solution (pH>8)	Class III
DF 12	Aqueous solutions of inorganic non-oxidizing salts with a pH value between 6 and 8	Class III
DF 13	Amines as well as their salts (in aqueous solution)	Class I
DF 14	Aqueous solutions of organic surfactants	Class III

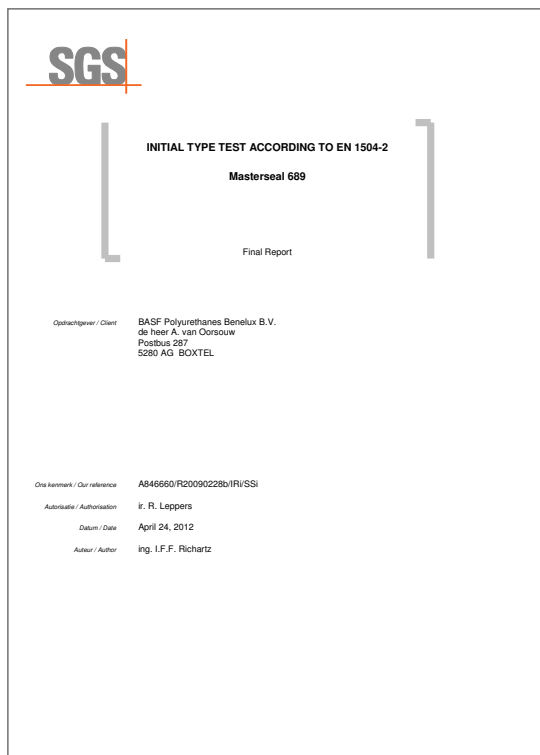


**Class I: 3d**  
**Class II: 28d without pressure**  
**Class III: 28d with pressure**

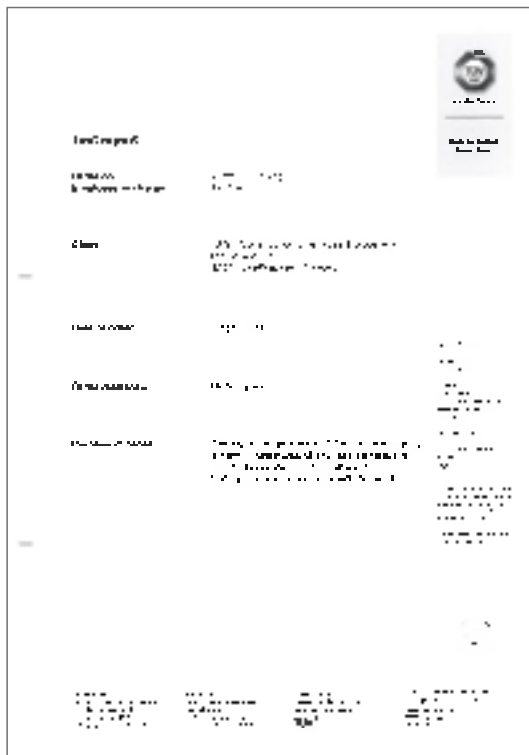
Reduction in hardness of less than 50 % when measured according to Buchholz method, EN ISO 2815, or Shore method EN ISO 868 24 h after the coating is removed from immersion in the test liquid.



# Approvals and Certificates



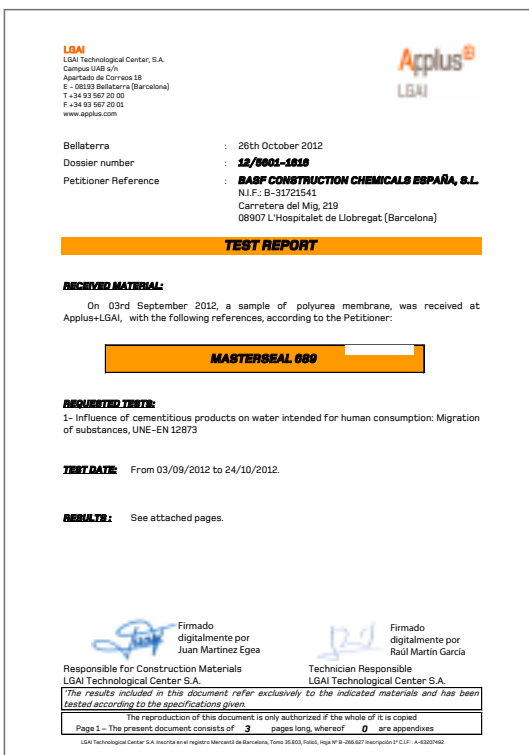
CE marked according EN 1504 part 2



Chemical resistance according EN 13529



Fire resistance according EN 13501 part 1  
Fire resistance according EN 13501 part 5



Contact with potable water according Drinking Water Directive

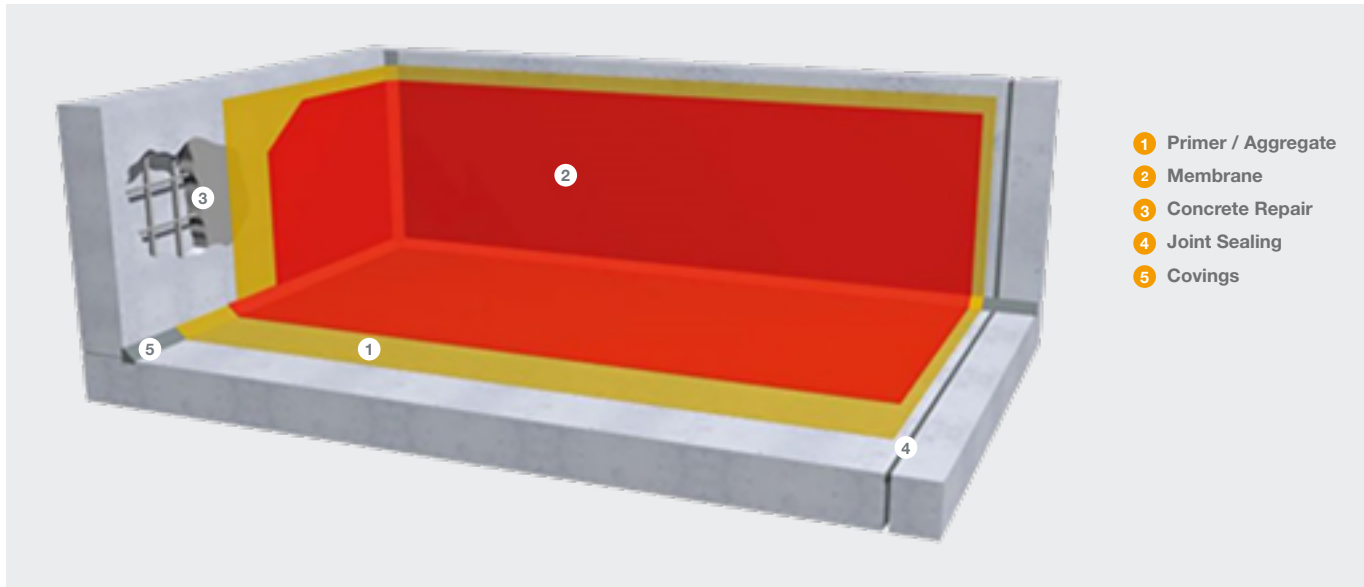
The results included in this document refer exclusively to the indicated materials and has been tested according to the specifications given.  
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Page 1 - The present document consists of 3 pages long, whereof 0 are appendices





## System Layout

The MasterSeal M 689 waterproofing system is comprised of a layer of membrane that is applied fully bonded onto the primed substrate.



	Product	Consumption approx.
1. Primer / Aggregate	<b>MasterTop P 650</b> Two-component solvent free epoxy surface sealer and primer	0.15-0.30 kg/m <sup>2</sup>
	<b>MasterTop SR 3</b> Silica aggregates for use in conjunction with MasterTop, MasterSeal and MasterProtect systems	0.60-1.0 kg/m <sup>2</sup>
2. Membrane	<b>MasterSeal M 689</b> A high elastic, ultra-fast curing, spray applied 100% polyurea membrane for use in waterproofing applications	1.65-2.75 kg/m <sup>2</sup>
Primer for aged <b>MasterSeal</b> (PU) waterproofing membranes	<b>MasterSeal P 691</b> A single component, solvent-based primer, moisture curing, for use below and on MasterSeal membranes	0.05-0.10 kg/m <sup>2</sup>
Optional topcoats	<b>MasterSeal TC 256</b> Two-component polyurethane UV resistant traffic coating	0.30-0.40 kg/m <sup>2</sup> (1 coat required)
	<b>MasterSeal TC 257</b> Two component polyurethane UV-resistant protective traffic coating	0.30-0.40 kg/m <sup>2</sup> (1 coat required)
	<b>MasterSeal TC 258</b> Single component polyurethane UV- resistant protective traffic coating	0.30-0.40 kg/m <sup>2</sup> (1 coat required)

**Total thickness: 1.5 - 2.5 mm**

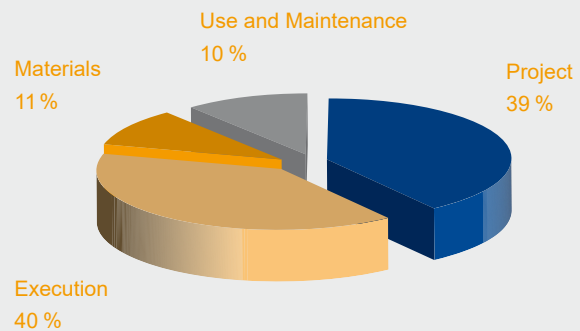


# Risk Management: Master Builders Solutions System Products for Successful Projects

This guide illustrates the waterproofing of different types of elements using MasterSeal M 689. Whatever the area to be treated, several components are required. The right combination and compatibility are essential to ensure successful performance.

Based on our global knowledge of construction physics and our experience and track record in the repair and waterproofing of water structures, we know that Risk Management is a unique and relevant topic in the construction industry and requires reliability in all respects, including products, full system solutions (from membranes to detailing products), professional consultancy, approved and warranted application, etc.

Causes of construction failures and the probability of their occurrence have been identified following several surveys in Europe, resulting in four basic categories of deficiency: Design, Construction, Materials, Use and Maintenance.



To control these risks and secure their investment, owners, investors, general contractors and engineers first and foremost need complete waterproofing solutions supplied by a reliable manufacturer with proven experience in Risk Management.

Risk Management provided by Master Builders Solutions focuses on reducing the probability of the occurrence of the causes that have been identified as damage generators:

- Detailed analysis of needs and review of specifications and drawings to ensure perfect waterproofing.
- Improving planning reliability of waterproofing installation objectives with defined product systems that include not only waterproofing membranes but also detailing such as joint treatment, crack injection, substrate repair, etc.
- Ensuring greater certainty about technical application and projected durability based on expert workmanship.
- Managing installation via Master Builders Solutions Licensed Contractors and/or Master Builders Solutions Approved Applicators.



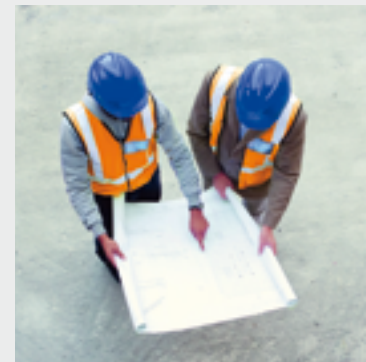
**1 Experience:**

Our Master Builders Solutions experts solve challenges on jobsites worldwide. This is proven by our extensive list of job references.



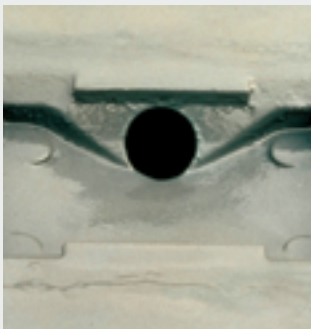
**2 Expertise in application:**

Master Builders Solutions System Partners, following an intensive and continued training programme, offer the reliable and professional application of systems. This ensures the successful completion of jobs and, thus, long term serviceable structures. Our exclusive Master Builders Solutions System Warranty includes a documented application carried out by a Master Builders Solutions System Partner.



**3 Design and specification:**

Our Master Builders Solutions experts contribute to the analysis and design process, combining single products into complete system solutions.



**5 Detailing:**

We understand the necessary products and solution approach, including details (joints, transition points, penetrations, etc.) that are often neglected, although they represent the most vulnerable points.



**4 Product systems:**

Products with high performance characteristics are required in this and all other applications, but it is always essential that these products are designed and thus certified for the specific intended use. Our comprehensive range of waterproofing systems under Master Builders Solutions is documented and certified in different European countries for use in the waterproofing of different building areas.



# 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

## MasterCell®

Density reducing admixtures

## MasterCem®

Solutions for cement manufacture

## MasterEase®

Solutions for low viscosity concrete

## MasterEmaco®

Solutions for concrete repair

## MasterFiber®

Comprehensive solutions for fiber reinforced concrete

## MasterFinish®

Solutions for formwork treatment

## MasterFlame®

Passive fire protection system

## 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

## MasterTile®

Solutions for tiling systems

## MasterTop®

Solutions for industrial and commercial floors

## MasterWeld™

Adhesive Solutions for construction

## MasterX-Seed®

Advanced accelerator solutions for concrete

## Ucrete®

Flooring solutions for harsh environments

## Regional Office

### United Arab Emirates

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Website

## Legal Entities - Middle East & Africa

### Algeria

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### Egypt

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### Kenya

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### Morocco

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### South Africa

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