



Clean Water Guide

Regulation 31 approved products
for clean water construction

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Drinking Water Industry

Master Builders Solutions have a range of products designed and tested to meet the demands of drinking water applications and are approved to Regulation 31 of the Water Supply (Water Quality) Regulations 2016.*

*To find out more about these regulations please visit: www.dwi.gov.uk/drinking-water-products/approved-products/soslistcurrent.pdf

These demands are driven by the necessity to return valuable assets back to service with minimum delay, once the repair or coating has been installed, reducing expensive “over pumping” costs. Master Builders Solutions is as a leader in the field of research and development employs technology that enables its products to safely come in contact with water soon after application. The reference projects presented on the following pages will give you some idea of the effectiveness of these products in specific applications

Table: Our Regulation 31 approved products – Return to service time

Product	Return to Service
MasterEmaco S 420 Rapid setting high strength structural repair mortar	3 days at ≥ 3 °C
MasterSeal 581 Rigid cement based membrane for waterproofing concrete	1 day at ≥ 20 °C 3 days at ≥ 3 °C
MasterSeal 586 Cementitious levelling mortar and blow hole filler	1 day at ≥ 14 °C 3 days at ≥ 3 °C
MasterSeal 588 Elastomeric, cement based membrane for waterproofing concrete	10 days at ≥ 21 °C 21 days at ≥ 7 °C
MasterSeal 930/933 Joint waterproofing bandage and epoxy resin adhesive	3 days at ≥ 14 °C 10 days at ≥ 7 °C
MasterSeal M 808 Elastic polyurethane membrane for waterproofing steel and concrete	1 day at ≥ 21 °C 7 days at ≥ 7 °C



MasterEmaco S 420

Rapid setting high strength structural repair mortar, Regulation 31 approved for use in contact with potable water with a 3 day return to service time*.

What is MasterEmaco S 420?

MasterEmaco S 420 is a rapid setting polymer modified repair mortar for application where high compressive strengths are required. The material cures to a concrete grey colour.

What is MasterEmaco S 420 used for?

MasterEmaco S 420 is suitable for structural repairs of reinforced and non-reinforced concrete. The material is ideal for repairing damage caused by:

- Corrosion of reinforcement bars
- Alkali aggregate reaction
- Impact damage

What are the benefits of using MasterEmaco S 420?

Separate primers and bonding coats are not required allowing for complete repair in a single operation with substantial time savings.

- Rapid-setting qualities provide high production rates saving access and labour costs.
- High performance for extreme durability and protection of embedded reinforcement.
- Regulation 31 approved for contact with potable water after just 3 days curing.
- Can be applied at 10-50mm in thickness per layer.



[Click here to view MasterEmaco S 420 Technical Datasheet](#)



[Click here to view MasterEmaco S 420 BIM object](#)



Project Reference Clarifier Refurbishment

The challenge

The contract required the removal of all contamination back to sound concrete. A rapid setting mortar was needed to build the surface back to level. A moisture tolerant adhesive and joint bandage was also needed to seal the leaking joints with a cementitious levelling mortar to re-profile the concrete surface.

Finally, a coating to protect the concrete surfaces and steel pipework from the effects of water was required. All materials to be Regulation 31 approved for use in contact with potable water with a fast return-to-service time to minimise the down time of the asset.

Our solution

The concrete surface was treated with high pressure water to remove all contaminants. The concrete surface was built up using MasterEmaco S 420 incorporating MasterSeal 600 polymer emulsion to build the concrete surface back to the original profile. Joints were sealed with MasterSeal 930 bandage applied on top of the MasterSeal 933 adhesive. MasterSeal 586 was then applied in one layer of 3mm to re-profile the concrete walls. MasterSeal M 808 was applied in 3 coats to protect the repaired concrete surface. Steel pipework and channels were grit blasted to remove all corrosion products. MasterSeal M 808 was applied in two coats by roller and brush onto the steel surfaces.





MasterSeal 581

Single component cementitious waterproofing membrane specially designed for positive and negative water pressure conditions with only a 1 day return to service time*.

What is MasterSeal 581?

MasterSeal 581 is a cementitious waterproofing membrane that is applied both on new and on existing structures. MasterSeal 581 is successfully used in interior and exterior waterproofing of concrete and masonry, above and below ground level. For example, MasterSeal 581 is used in tanking of basements, water reservoirs, tunnels, lift pits, concrete pipes etc. MasterSeal 581 is also used as a replacement for external rendering systems.

What is MasterSeal 581 used for?

MasterSeal 581 is the most easy to use solution for waterproofing against water both in positive or negative side. MasterSeal 581 is a single component product that requires only to be mixed with water for the application. MasterSeal 581 shows a high water pressure resistance, both from positive and negative side. This allows the application in the most demanding situations with excellent success. MasterSeal 581 fulfils the requirements of European and local legislations to be in direct contact with potable water. This includes the regulations regarding the positive lists of constituents and the migration tests. Approvals for contact with potable water are available.

What are the benefits of using MasterSeal 581?

Simple application and maximum effectiveness are the main benefits that you can achieve by using MasterSeal 581. MasterSeal 581 only requires to be mixed with clean water, is applied on humid concrete substrates and tools are cleaned using only water. Fully certified solution according EN 1504 part 2 that ensures consistency in performance.



[Click here to view
MasterSeal 581
Technical Datasheet](#)



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MasterSeal 581
BIM object](#)

* Temperature dependent.



Project Reference Service Reservoir

The challenge

The leaking brick substrate required plugging to prevent water ingress when emptied. A complicated vaulted and arched construction combined with limited possession time meant a method of application other than by hand was required to return the asset back to service. A Regulation 31 approved cementitious coating was required to seal the surfaces.

Our solution

The brickwork surface was treated with high pressure water to remove all contaminants. A rapid setting mortar was used for the repairs and water sealing. A cementitious render was applied to provide a flat surface. MasterSeal 581 incorporating MasterSeal 600 was applied in two coats of 1 mm per coat using an air assisted pump and spray gun to provide a smooth waterproof finish.





MasterSeal 586

Smooth finish waterproof render for internal and external use on concrete / masonry, with only a 1 day return to service time*.

What is MasterSeal 586?

MasterSeal 586 when mixed with clean water or a MasterSeal 600/water blend to a plaster consistency produces a waterproof render/fairing coat. MasterSeal 586 is suitable for trowel application in layers of 3mm - 6mm in thickness.

What is MasterSeal 586 used for?

MasterSeal 586 is used for interior and exterior waterproofing of concrete and masonry, above and below ground level, where a smooth or textured finish is required. Typical applications include, Water reservoirs, tunnels and external renders for structures in a harsh-weather environment.

What are the benefits of using MasterSeal 586?

- Totally waterproofs whilst providing a decorative finish
- Cement-based for extreme durability
- Capable of withstanding both positive and negative pressure
- Can be maintained to a high standard by high-pressure water or steam cleaning
- Solvent free



Click here to view
MasterSeal 586
Technical Datasheet



Click here to view
MasterSeal 586
BIM object



Project Reference Service Reservoir

The challenge

The contract required the removal of all existing contamination back to sound concrete. A moisture tolerant adhesive and joint bandage was needed that could offer a fast return to service time to seal the leaking joints. The contract required a cementitious levelling mortar with a fast return to service time to re-profile the concrete surface. All materials had to be Regulation 31 approved for use in contact with potable water.

Our solution

The concrete surface was treated with high pressure water to remove all contaminants. MasterSeal 930 bandage was applied onto MasterSeal 933 moisture tolerant adhesive to seal the vertical and horizontal joints. MasterSeal 586 was applied in one layer of 3mm to re-profile the concrete walls. MasterSeal 933 adhesive can be applied to surface-dry concrete, avoiding the extra cost of heating to dry the concrete. The fast return to service of 10 days at 7°C enabled the reservoir to be recommissioned on schedule, minimising adhesive waste.





MasterSeal 588

Elastomeric, cement-based membrane for waterproofing concrete and masonry in contact with all types of water, with a 10 day return to service time*.

What is MasterSeal 588?

MasterSeal 588 is an elastomeric cement-based waterproof membrane used for waterproofing water retaining structures especially if they are subjected to movement. As example, MasterSeal 588 is used in potable water reservoirs, process water reservoirs and waste water inflow areas in treatment plants. MasterSeal 588 is also used in basement waterproofing systems, in areas with movements, vibrations and slight settlement.

What is MasterSeal 588 used for?

Masterseal 588 shows chemical resistance against soft water, domestic waste water, manure or other liquids moderately aggressive to mineral substrates. MasterSeal 588 is applied using a brush or spray equipment. MasterSeal 588 only requires applied thicknesses of 2 mm to achieve its waterproofing properties. MasterSeal 588 is formulated fulfilling the requirements of European and local legislations to be in direct contact with potable water. This includes the regulations regarding the positive lists of constituents and the migration tests

What are the benefits of using MasterSeal 588?

MasterSeal 588 only requires the mixing of the two pre-batched components and the application is also very easy with brush or by a worn-driven spray pump. High durability of the membrane in permanent immersion and in contact with slightly acidic water solutions, ensure long term waterproofing of tanks. Fully certified product according EN 1504 part 2 that ensures consistency in performance.



[Click here to view
MasterSeal 588
Technical Datasheet](#)



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* Temperature dependent.



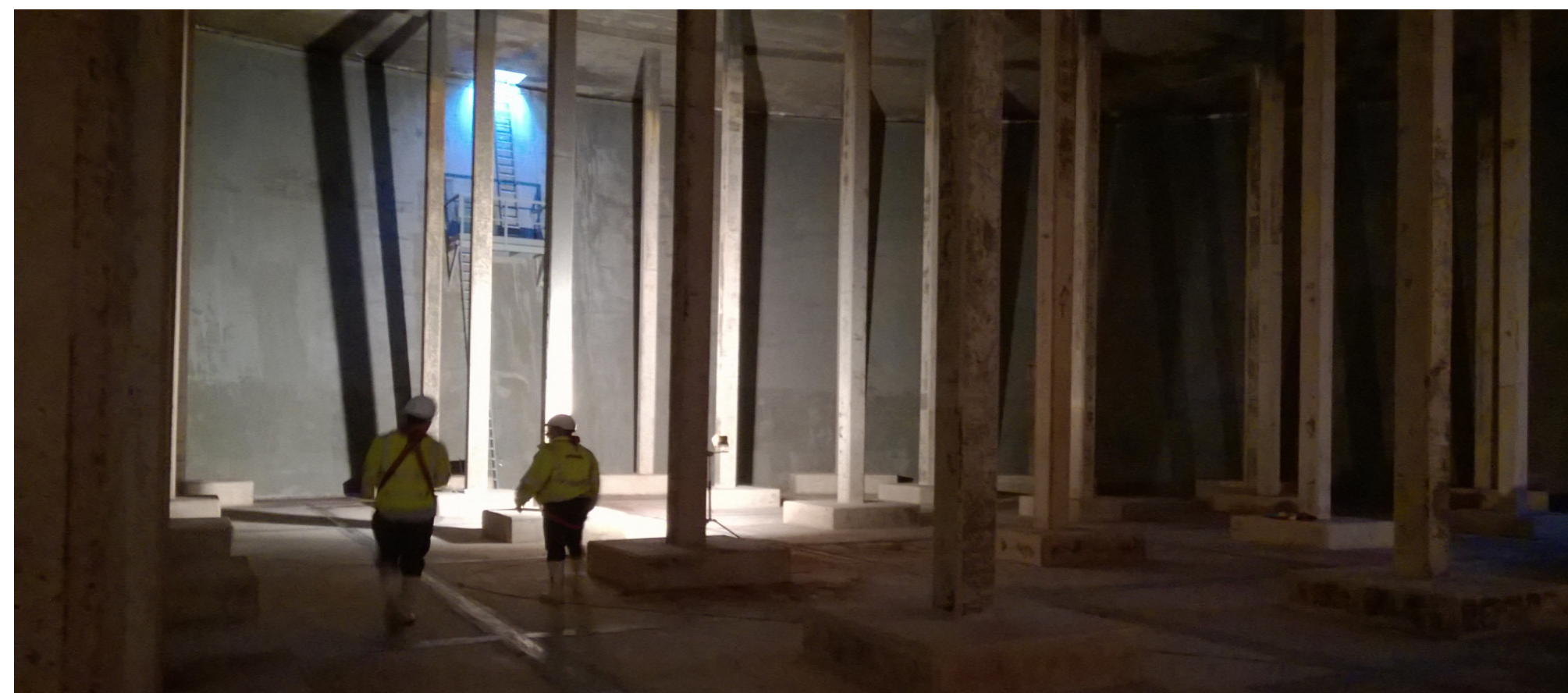
Project Reference Service Reservoir

The challenge

The contract required the removal of all existing contamination back to sound concrete. A moisture tolerant adhesive and joint bandage were needed that could provide a fast return to service time while sealing the leaking joints. A flexible cementitious membrane to coat the concrete and accommodate any future movement within the structure completed the specification. All materials had to be Regulation 31 approved for use in contact with potable water.

Our solution

The concrete surface was treated with high pressure water to remove all contaminants. MasterSeal 930 bandage was applied onto MasterSeal 933 moisture tolerant adhesive to seal the vertical and horizontal joints. MasterSeal 588 was applied to the concrete by brush in two coats of 1mm per coat. MasterSeal 588 White was applied followed by a second coat of MasterSeal 588 Grey. MasterSeal 588 forms an elastomeric membrane in dry conditions and when fully immersed, which accommodates any potential movement in the structure once filled.





MasterSeal 930/933

Joint waterproofing bandage and epoxy resin adhesive, Regulation 31 Approved for use with potable water, with only a 3 day return to service time*.

What is MasterSeal 930/933?

MasterSeal 930/MasterSeal 933 is a highly elastic pre- formed membrane for waterproofing over joints or cracks in water retaining structures, such as reservoirs and water towers, where a high degree of movement is expected in both vertical and horizontal applications. The material is suitable for use on a number of different substrates including concrete, brick, block and metals.

What is MasterSeal 930/933 used for?

MasterSeal 930/MasterSeal 933 is used to ensure continuity of waterproofing over joints or cracks in structures such as; Water reservoirs, Water towers, Tunnels, Basements & Filter beds

What are the benefits of using MasterSeal 930/933?

- 3 day return to service at $\geq 14^{\circ}\text{C}$
- 10 day return to service at $\geq 7^{\circ}\text{C}$
- Proven high performance system
- Reg 31 approved for contact with potable water
- Can be applied in damp conditions
- Resistant to UV light, ozone and a wide range of chemicals
- Suitable for horizontal and vertical joint/cracks
- Low adhesive consumption
- No solvent wipe required



[Click here to view
MasterSeal 930/933
Technical Datasheet](#)



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MasterSeal 930/933
BIM object](#)

* Temperature dependent.



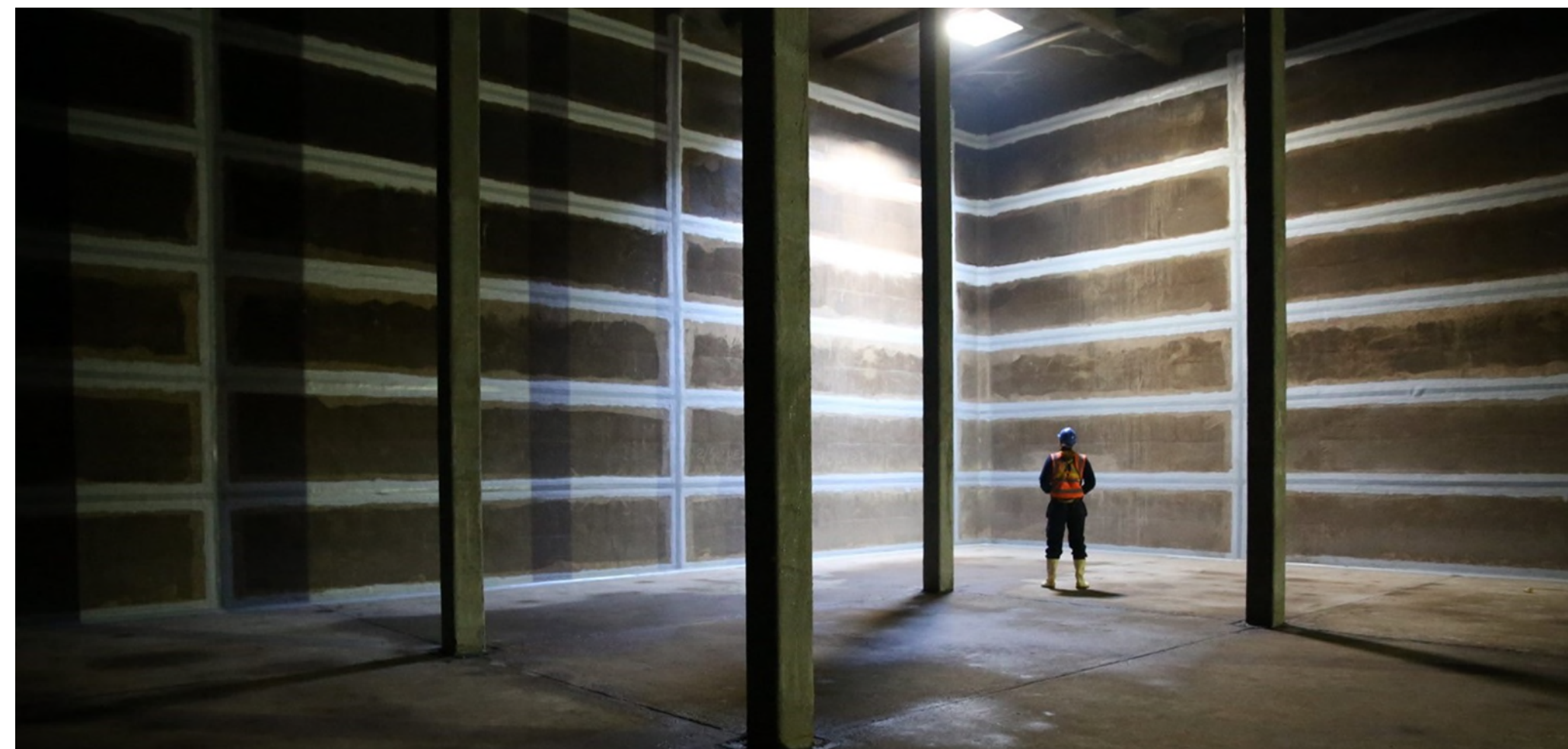
Project Reference Service Reservoir

The challenge

As a key water source for the conurbation half of the twin compartment reservoir was required to be in service at all time. A Regulation 31 approved over banding membrane and adhesive with a fast return to service was required to ensure minimal disruption and uninterrupted service was maintained during the works.

Our solution

The concrete surfaces were prepared with a high-pressure water jet and a Von Arx floor scabber. A 200mm wide x 1mm thick bandage of MasterSeal 930 was applied over MasterSeal 933 adhesive, either side of the existing prepared joint. Once positioned and rolled into position, MasterSeal 933 adhesive was applied to encapsulate the free edges of the MasterSeal 930 bandage.





MasterSeal M 808

Waterproofing membrane for both concrete and steel, crack bridging and resistant to chemically aggressive environments, with only a 1 day return to service time*.

What is MasterSeal M 808?

MasterSeal M 808 is a multi-purpose waterproofing membrane for water management industry both for areas with high chemical and mechanical demands (inflow) and for areas where potable water is stored (disinfection and outflow). Additionally it is used in industrial process areas where concrete or steel structures are affected by water containing dissolved aggressive chemicals.

What is MasterSeal M 808 used for?

MasterSeal M 808 is a two component polyurethane membrane that offers, at the same time, high elasticity to bridge cracks in the substrate and high chemical resistance. The membrane is formulated fulfilling the requirements of European and local legislations to be in direct contact with potable water. This includes the regulations regarding the positive lists of constituents and the migration tests. Approvals on several European countries for contact with potable water are available.

What are the benefits of using MasterSeal M 808?

You can apply MasterSeal M 808 both on concrete and on metallic substrates. Its long pot life allows the application either by roller or by air-less spraying. Using MasterSeal M 808 you can benefit from the long term durability due to its high chemical resistance, the low permeability to water and the high elastic properties that ensure the continuity of the membrane even in case of moving substrates with opening cracks. The membrane is applied fully bonded and monolithic to substrate without laps, welds or seams. MasterSeal M 808 has high abrasion resistance and high impact resistance which also ensure a long term stability of the membrane exposed to mechanical loads. All the properties and the design of the system reduce the risk of infiltration of water and other dissolved substances enhancing the durability of the waterproofed substrate



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MasterSeal M 808
Technical Datasheet](#)



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MasterSeal M 808
BIM object](#)

* Temperature dependent.



Project Reference (Steel) Service Reservoir

The challenge

The above ground reservoir was constructed using steel sheet piles and required refurbishment comprising the removal of the existing coating and recoating to protect the steel and waterproof the structure. The contract required the removal of all existing coating and corrosion products, back to clean steel. The specification required an elastomeric polyurethane coating to accommodate any future movement within the structure, with a fast return to service time to enable the tank to be recommissioned within the work programme. The coating needed to be Regulation 31 approved for use in contact with potable water

Our solution

The steel surface was grit blasted to remove the existing coating, corrosion products and all contaminants. MasterSeal M 808 light grey was applied by roller and brush in two coats. MasterSeal M 808 has a rapid return service time of seven days at 7°C, enabling the reservoir to be recommissioned on schedule. MasterSeal M 808 is an elastomeric coating, to withstand any potential movement once the steel tank was filled. MasterSeal M 808 is Regulation 31 approved for use in contact with potable water.

Project Reference (Concrete) Filter Bed Refurbishment

The challenge

The concrete surfaces had been eroded by the action of the filter bed, sand and water so required reinstatement back to sound concrete. A moisture tolerant adhesive with joint bandage solution was required to seal leaking joints with a cementitious levelling mortar to re-profile the concrete surface. Then finished with a coating to protect the concrete surfaces from the effects of the water and sand. The joint bandage, adhesive and coating required a fast return-to-service time to minimise the down time of the asset. All materials to be Regulation 31 approved for use in contact with potable water.

Our solution

The concrete surface was treated with high pressure water to remove all contaminants. MasterSeal 930 bandage was applied onto MasterSeal 933 moisture tolerant adhesive to seal the vertical and horizontal joints. A cementitious levelling mortar was used to re-profile the concrete walls. MasterSeal M 808 was applied by roller and brush onto the walls and floors. Contrasting grey colours were used to identify the correct coverage rate.



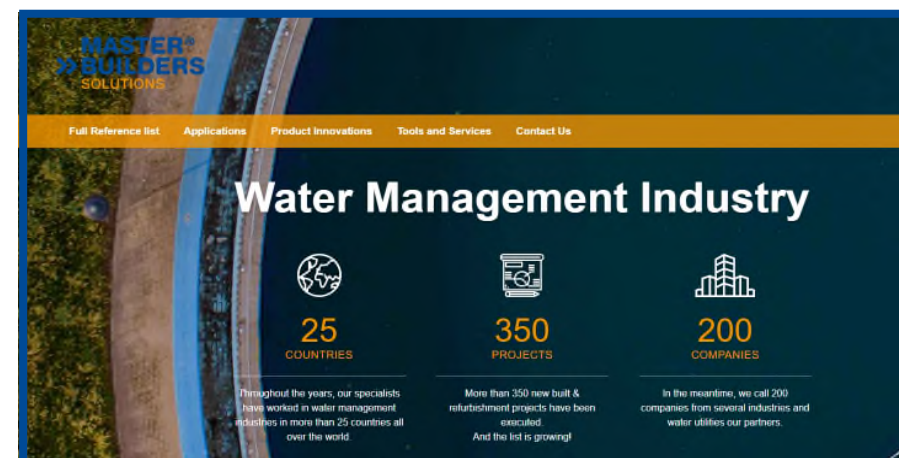
Relevant Hyperlinks



Solunaut

The Solution Finder for Master Builders Solutions products. Discover the optimal solution for your application and find the right products for your projects.

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Water Management References

Throughout the years, our specialists have worked in water management industries in more than 25 countries all over the world.

[CLICK HERE](#)



Virtual Design

Master Builders Solutions BIM Objects & Digital Construction Tools. Which supports product selection, specification and use.

[CLICK HERE](#)



Quantified Sustainable Benefits

Discover some of our most eco-efficient product solutions to Reduce your footprint and boost your bottom line.

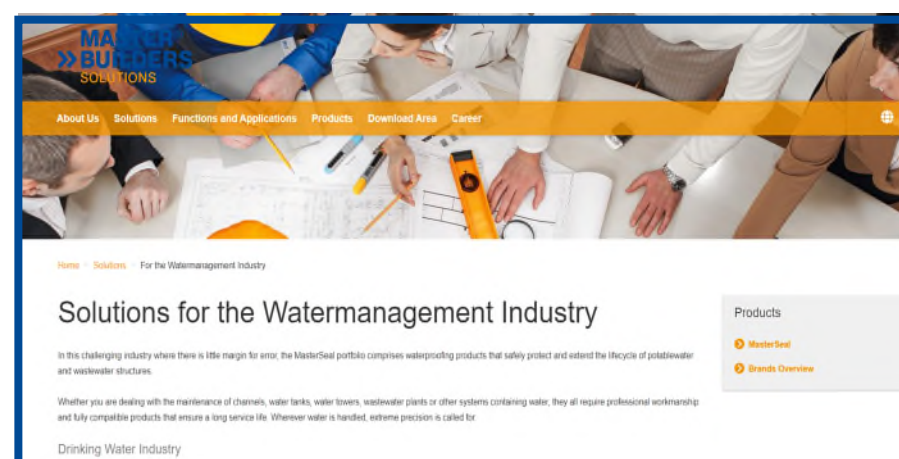
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Online Planning Tool

Create specifications for Master Builders Solutions products and manage your project specifications in an easy, fast and smart way.

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UK Product Solutions

The MasterSeal portfolio comprises waterproofing products that safely protect and extend the lifecycle of potable water and wastewater structures.

[CLICK HERE](#)



Relevant Brochures

UK Water Management References



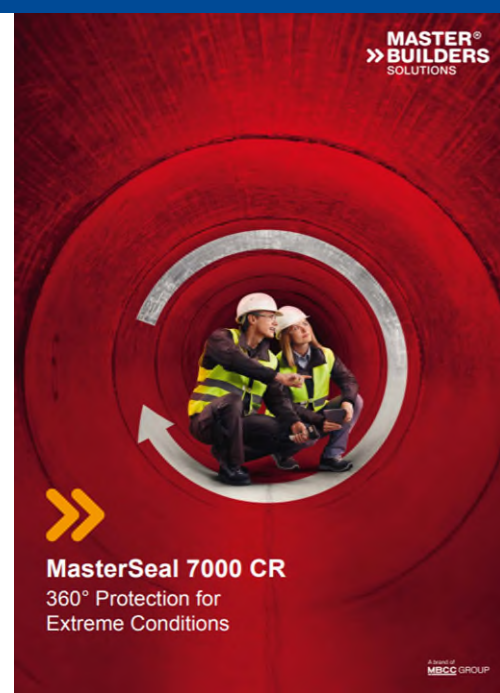
Cementitious Waterproofing



Wastewater Treatment Plants



MasterSeal 7000 CR – 360° Protection



Contacts



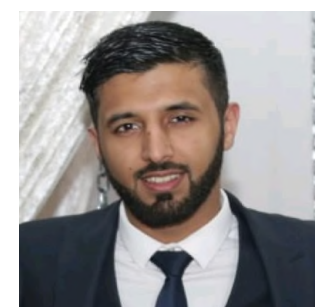
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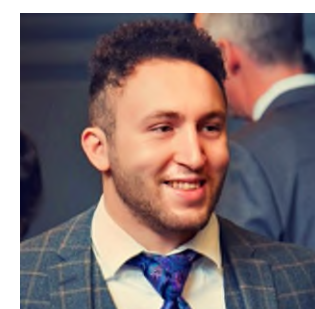
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