



UK Water Management Project References





Introduction

Whether you are dealing with the maintenance of channels, water tanks, water towers, wastewater plants or other systems containing water, they all require professional workmanship and fully compatible products that ensure a long service life. Wherever water is handled, extreme precision is called for.

In this brochure, we have compiled some information on key reference projects from the UK. These projects demonstrate which products are used to meet which requirements, how special challenges can be effectively mastered and how a variety of materials can be combined to generate durable and complete solutions.

This reference brochure is designed to be read alongside our Water Management brochure for a full picture of the professional, effective advice we are able to offer our customers. Taking advantage of our know-how means achieving success.

Chris Gallivan
Product Manager Construction Products
Chris.Gallivan@mbcc-group.com



Online Planning Tool

Manage your project specifications in an easy, fast and smart way



Product solutions are now just a few clicks away with our Online Planning Tool. Define your own solution in just 3 steps and download your customized specification report. Add BIM objects and all product related documentation to complement your offer.

The Online Planning Tool helps you define the Master Builders Solutions you need by industry (Clean water or Waste water) and also by building type.

Easy: whether you work from your PC in the office or your tablet on the jobsite, the graphic navigation helps you easily find the solutions you need. No time to finish defining a whole project? Save your projects in your account and access them anytime to finish, check or modify them.

Fast: create your customized report and add all the relevant information such as BIM objects, specifications and product certificates with just one click. Download your reports instantly or save them in your account.

Smart: even smaller projects can become risky if details are missed. Define the specific conditions of your structure and check the detailed options to make sure nothing is forgotten.

Questions along the way? Do you need technical advice for your specific case or want to receive a price quotation for your solution? Send us your request with one click. Our team will provide you with an answer as soon as possible.

Waste Water Treatment Plants



Drinking Water Storage Structures



www.online-planning.master-builders-solutions.com





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 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, Regulation 31 approved	3 days at $\geq 3\text{ }^{\circ}\text{C}$
MasterSeal 586 Cementitious levelling mortar and blow hole filler, Regulation 31 approved	1 day at $\geq 14\text{ }^{\circ}\text{C}$ 3 days at $\geq 3\text{ }^{\circ}\text{C}$
MasterSeal 581 Rigid cement based waterproofing membrane for waterproofing concrete, Regulation 31 approved	1 day at $\geq 20\text{ }^{\circ}\text{C}$ 3 days at $\geq 3\text{ }^{\circ}\text{C}$
MasterSeal 588 Elastomeric, cement based membrane for waterproofing concrete, Regulation 31 approved	10 days at $\geq 21\text{ }^{\circ}\text{C}$ 21 days at $\geq 7\text{ }^{\circ}\text{C}$
MasterSeal 930/933 Joint waterproofing bandage and epoxy resin adhesive, Regulation 31 approval	3 days at $\geq 14\text{ }^{\circ}\text{C}$ 10 days at $\geq 7\text{ }^{\circ}\text{C}$
MasterSeal M 808 Elastic polyurethane membrane for waterproofing steel and concrete, Regulation 31 approved	1 day at $\geq 21\text{ }^{\circ}\text{C}$ 7 days at $\geq 7\text{ }^{\circ}\text{C}$





Lye Green Service Reservoir

Waterproofing of joints and concrete protection

The background

Lye Green underground reservoir in Claverdon lies in the heart of the Warwickshire countryside. The concrete structure required maintenance to the joints and re-levelling of the internal concrete surface.

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.

Benefits to the customer

- 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.
- MasterSeal 586 applied at 3mm provides a smooth surface to reconstitute the original concrete finish. The rapid return to service time of three days at 3°C ensured there was no delay between completing the re-profiling works and recommissioning the reservoir.
- MasterSeal 930 bandage, MasterSeal 933 adhesive and MasterSeal 586 levelling mortar are all Regulation 31 approved for use in contact with potable water.

Project facts at a glance

- Potable water reservoir servicing Warwick
- Preparation of the concrete surfaces
- Regulation 31 approved joint bandage and levelling mortar applied

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:
www.master-builders-solutions.com

Project

Lye Green Service Reservoir

Location

Warwick

Owner/s:

Severn Trent

Applicator/Contractor:

Stonbury

Market sector:

Water Management Industry

Products used & amounts:

Food and Beverage

Products used & amounts:

*MasterSeal 586 - 1200m²
MasterSeal 930 bandage with
MasterSeal 933 adhesive - 120
linear metres*





Solefields Service Reservoir

Protection of steel columns & waterproofing of concrete walls

The background

Solefields Service Reservoir in Kent is approaching 100 years of age and consists of mass concrete walls with steel columns supporting the concrete roof. The steel columns required a protective coating to prevent corrosion and the walls required re-levelling to a smooth profile.

The challenge

The contract required the removal of all existing contamination back to sound concrete. A coating with a fast return-to-service time to protect the steel columns from corrosion. A cementitious levelling mortar with a fast return to service time to re-profile the concrete surface. 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. The steel columns were grit blasted to remove all corrosion products. MasterSeal M 808 was applied in two coats by roller and brush onto the steel columns. MasterSeal 586 incorporating MasterSeal 600 polymer emulsion was applied in one layer of 3mm to re-profile the concrete walls

Benefits to the customer

- 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, MasterSeal 586 and MasterSeal 600 are Regulation 31 approved for use in contact with potable water.
- MasterSeal 586 incorporating MasterSeal 600 polymer emulsion applied at 3mm provides a smooth surface to reconstitute the original concrete finish and provide protection from the effects of the water. The rapid return to service time of three days at 3°C ensured there was no delay between completing the re-profiling works and recommissioning the reservoir.

Project facts at a glance

- Potable water service reservoir, Sevenoaks
- Preparation of the concrete and steel surfaces
- Regulation 31 approved coating and levelling mortar applied

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:

www.master-builders-solutions.com

Project

Solefields Service Reservoir

Location

Sevenoaks, Kent

Owner/s:

South East Water

Applicator/Contractor:

J Browne

Market sector:

Water Management Industry

Products used & amounts:

Food and Beverage

Products used & amounts:

MasterSeal M 808 grey 250 m²

MasterSeal 586 incorporating

MasterSeal 600 360m²





Hourne Farm Service Reservoir No.2

Waterproofing and protecting steel tank

The background

Hourne Farm Reservoir is located between the North and South Downs near the historic town of Royal Tunbridge Wells. 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 challenge

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.

The customer's benefit

- 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 facts at a glance

- Steel fabricated potable water reservoir servicing Crowborough area.
- Grit blasting the steel surface.
- Regulation 31 approved elastomeric coating applied to waterproof the structure and protect the steel work.

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:

www.master-builders-solutions.com

Project

Hourne Farm Service
Reservoir No 2

Location

Crowborough, East Sussex

Owner/s:

South East Water

Applicator/Contractor:

J Browne

Market sector:

Water Management Industry

Products used & amounts:

Food and Beverage

Products used & amounts:

MasterSeal M 808, light grey -
400m²





Meades Service Reservoir No.1

Waterproofing of joints and concrete protection

The background

Meades Reservoir is located on the chalk hills above Eastbourne at well-known beauty spot Beachy Head. The underground reservoir required joint replacement and internal waterproofing to prevent moisture loss or ingress.

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 elastomeric 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.

Benefits to the customer

- 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
- 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 bandage, MasterSeal 933 adhesive and MasterSeal 588 elastomeric membrane are all Regulation 31 approved for use in contact with potable water.

Project facts at a glance

- Potable water reservoir servicing Eastbourne
- Preparation of the concrete surface
- Regulation 31 approved joint bandage and coating applied.

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:

www.master-builders-solutions.com

Project

Meades Service Reservoir

Location

Eastbourne, East Sussex

Owner:

South East Water

Applicator/Contractor:

J Browne

Market sector:

Water Management Industry

Products used & amounts:

Food and Beverage

Products used & amounts:

MasterSeal 588 - 1000m²

MasterSeal 930 /933 - 1700

linear metres





Sluvad Water Treatment Works Phases 1 & 2

RGF filter refurbishment

The background

Sluvad water treatment works in West Wales serves the Cardiff and Newport areas with 180 mega-litres of potable water a day.

As part of an ongoing refurbishment programme, 14 filter beds within the treatment plant were upgraded and tanked.

The challenge

Several of the filter bed tanks had shown signs of water loss over the preceding maintenance period. The sequential construction of the tanks meant diagnosing the causes of the leaks was not possible unless each bank of tanks were decommissioned and drained.

It was important this down time was minimised to allow each bank of tanks to be re-commissioned within the minimum allowable time frame.

Our solution

Cracks within the concrete tanks were chased out with a disc cutter and repaired with MasterSeal 590 rapid setting mortar. The concrete walls and floors of each tank were prepared using a rotary sander and then coated with two coats of MasterSeal 588, Regulation 31-approved flexible cementitious waterproofing slurry applied by brush.

Benefits to the customer

- The use of MasterSeal 590 rapid setting mortar enabled cracks within the concrete to be sealed and coated within a short time frame.
- Each tank was re-commissioned within three weeks of the initial possession time.

Project facts at a glance

- Upgrade and tanking of 14 filter beds
- Repair of cracks in concrete with rapid setting mortar
- Regulation 31-approved elastomeric waterproof coating applied
- Maximum of three weeks out of service for tank repairs

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:
www.master-builders-solutions.com

Project

Sluvad Water Treatment Works
Phases 1 & 2

Location

West Wales

Owner/s:

Welsh Water

Applicator/Contractor:

C E Barry

Designer/Architect/Specifier:

Welsh Water

Market sector:

Water Management Industry

Products used:

MasterSeal 590
MasterSeal 588





Knapp Mill Water Treatment Works

Refurbishment of Filter Beds

The background

The Knapp Mill Water Treatment Works in Christchurch, Dorset extracts water from the River Avon and supplies potable water to around 70,000 homes using slow sand filtration.

The filter beds at the facility required refurbishment and re-commissioning within a short timescale to ensure plant efficiencies within the water treatment plant were maintained.

The challenge

After removal of the filter sand, concrete repairs were required using a rapid-setting mortar to enable the concrete to be returned to service quickly. A flexible, elastomeric membrane and adhesive system was required to over-band existing failed joints. Both materials were to be approved under Regulation 31, for use with potable water. Chemically resistant sealants were required for the exposed sections of joint above the waterline. Finally, an anti-carbonation coating was required to protect the concrete structures in a colour sympathetic to the local residential housing.

Our solution

MasterEmaco S 420 was specified to repair internal and external concrete elements on the walls and parapets, and MasterSeal 930 membrane and MasterSeal 933 adhesive were chosen to over-bandage existing failing joints and cracks in the tanks. MasterSeal NP 474 was selected to seal external joints and internal joints above the water line, while MasterProtect 330 EL provided flexible anti-carbonation coating in the required colour for the external concrete walls for long-term protection.

Benefits to the customer

- MasterSeal 930/933 bandage system required only one layer of epoxy adhesive, giving savings on both material and labour costs. This also meant only a minimal amount of adhesive was left exposed.
- The system specified allowed over-coating with a product approved for contact with potable water after only 18 hours, permitting an extremely rapid return to service for the filter beds.
- No solvent wipe was required on the membrane and there was no central debonding strip, minimising adhesive waste.

Project facts at a glance

- Water treatment works project
- Refurbishment and re-commissioning of filter beds within a short timescale
- Master Builders Solutions supplied flexible, chemically resistant systems including anti-carbonation coating
- Aesthetic needs were met with coloured coating
- Filter beds could be returned to service after 10 days at 7°C

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:

www.master-builders-solutions.com

Project

Knapp Mill Water Treatment Works

Location

Christchurch, Dorset

Owner/s:

Sembcorp Bournemouth
(formerly Bournemouth and West Hampshire Water)

Applicator/Contractor:

Concrete Repairs Ltd, Bristol

Designer/Architect/Specifier:

Sembcorp Bournemouth
(formerly Bournemouth and West Hampshire Water)

Market sector:

Water Management Industry

Products used:

MasterSeal 930/933
MasterEmaco S 420
MasterProtect 330 EL
MasterSeal NP 474





Coombe Down Reservoir Roof

Waterproofing of vaulted reinforced concrete roof

The background

Coombe Down Reservoir in Sussex is a brick construction, with a vaulted reinforced concrete roof.

The challenge

Due to the remote location and difficult site access, a rapid-setting waterproof membrane with elastomeric properties was required, which could be backfilled immediately upon completion of the system. The surface of the vaulted roof had many uneven connections to the brick structure and it was imperative that a seamless film build was achieved at these junctions

Our solution

The concrete surface was prepared to remove all loose materials and debris. The concrete surface was primed with MasterTop P 660 rapid cure primer and broadcast with sand. After 24 hours MasterSeal M 689 was spray applied at a thickness of 1.5 mm.

The customer's benefit

- The spray application enabled all the contours and connections to be coated producing a seamless membrane.
- MasterSeal M 689 has a rapid set time of one minute, allowing the structure to be backfilled immediately upon completion of spraying.
- MasterSeal M 689 is a resilient, tough elastomeric membrane, which can withstand the impact of backfill without a protection board. This enabled the reservoir to be recommissioned on schedule.

Project facts at a glance

- Reinforced concrete reservoir roof
- MasterTop P 600 rapid set polyurethane primer
- MasterSeal M 689 rapid setting, elastomeric polyurea membrane to waterproof the roof.

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:

www.master-builders-solutions.com

Project

Coombe Down Reservoir Roof

Location

Sussex

Owner/s:

South East Water

Applicator/Contractor:

J Browne

Market sector:

Water Management Industry

Products used:

MasterSeal P 660,
MasterSeal 689





Waste Water Industry

Concrete structures at waste water treatment plants face a variety of operational and environmental demands. While the purpose of a sewer is to carry waste water to the treatment plant without any loss and without any detrimental impact on the environment the purpose of a water treatment plant is to convert dirty, contaminated water into water that can be re-used again in agricultural, industrial or even as drinking water. This means that non-stop operations of the plans require that infrastructure is in good condition, watertight and durable.

Concrete waste water lines are thus continuously exposed to extremely aggressive substances which can cause material damage and cracks that can lead to severe environmental hazards. Using Master Builders Solutions waterproofing products, waste water systems can be durably refurbished, preventing pollution of the groundwater by waste water and maintaining effective operation of the plants.

Master Builders Solutions have a range of products developed to meet the demands of waste water applications. Chemical resistance is a major factor in combating biogenic sulphuric acid attack, combined with resistance to the effects of fatty acids for long term durability. Rapid setting concrete repair mortars compliant to EN 1504 part 3 ensure repairs can be overcoated with minimal delay, using a range of hand and spray applied polyurethane and polyurea systems to offer long term chemical resistance.

The reference projects presented on the following pages will give you some idea of the effectiveness of these products in specific applications.

Products for waste (dirty) water applications

MasterSeal M 689:

High elastic , non-solvented, ultra-fast curing, spray applied polyurea membrane

MasterSeal M 808:

Elastic polyurethane membrane for waterproofing concrete, Regulation 31 approved

MasterSeal M 336:

Crack bridging waterproofing membrane with medium chemical resistance

MasterSeal 930/933:

Joint waterproofing bandage and epoxy resin adhesive, Regulation 31 approved

MasterSeal 588:

Elastomeric, cement based membrane for waterproofing concrete, Regulation 31 approved

MasterSeal 590:

Fast setting mortar to plug active water leaks in concrete and masonry

MasterEmaco Range:

Universal, fast setting repair and levelling repair mortars re-establish the integrity of deteriorating structures





Crossness and Beckton Sewage Treatment Works

Refurbishment of six primary settlement tanks

The background

Crossness Sewage and Beckton Sewage Treatment Works serve a combined total of 5.5 million Londoners. A major investment program will significantly increase the amount of sewage each site can treat and as such, measures to reduce and control odours to the surrounding area have been implemented. This involved the encapsulation of each settlement tank with a “bio dome” to reduce odours to the surrounding area and harvest the methane produced.

The challenge

The program of work involved the repair of the concrete surface and the installation of a new link bridge within each tank. The effect of encapsulating the tanks increased the microbiological activity and subsequent acidity within the atmosphere. A suitable coating was required to protect the concrete from the new environmental conditions.

Our solution

MasterEmaco N 5200, was used to repair and reprofile the vertical concrete surface and create a smooth horizontal top surface; with an internal fall, onto which the “bio dome” is secured. The internal falls prevent the ponding of acidic solutions within the encapsulated tank.

The internal surface of the tanks were primed with Ucrete PSC, a moisture tolerant primer. After 24 hours the internal concrete surface was sprayed with MasterSeal M 689, rapid setting, chemically resistant polyurea coating to a thickness of 1.5 mm in one coat. The coating was applied over the horizontal surface and 2.5 meters down the vertical surface. The bottom 1 meter of MasterSeal M 689 coating would be permanently submerged below the minimum fill level when in service.

The customer’s benefit

- MasterEmaco N 5200 rapid-setting mortar enabled the reprofiled surface to be sufficiently cured within 7 days to receive the coating.
- MasterSeal M 689 provided a chemically resistant, durable and flexible coating to withstand the acidic atmosphere within the “bio domes”

Project facts at a glance

- Concrete repair and coating of 6 primary settlement tanks
- Approximately 2,000 m2 of concrete surface waterproofed
- MasterEmaco N 5200 – 1 tonne
- MasterSeal M 689 – 7.5 tonnes

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group’s expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:
www.master-builders-solutions.com

Project

Crossness and Beckton
Sewage Treatment Works

Location

London (United Kingdom)

Owner/s:

Thames Water

Applicator/Contractor:

Volker Laser

Designer/Architect/Specifier:

Montgomery Watson Harza

Market sector:

Water Management Industry

Products used:

MasterEmaco N 5200
MasterSeal M 689
Ucrete PSC





Hogsmill Sewage Treatment Works

Refurbishment of Primary Settlement Tanks

The background

This project involved the encapsulation of two primary settlement tanks within “bio domes” in order to reduce odours in the surrounding residential area and harvest the methane produced.

The challenge

The refurbishment programme involved the removal by hydro demolition of a cantilevered rim of concrete, the repair and re-profiling of the concrete surface to falls as necessary and the installation of a new concrete link bridge within each tank. The effect of encapsulating the tanks increased the microbiological activity and subsequent acidity within the atmosphere. A suitable coating was required to protect the concrete from the new environmental conditions.

Our solution

MasterEmaco N 5200 was used to repair and re-profile the concrete surface. A shutter was constructed to form a level top surface and internal falls. MasterEmaco S 5450 PG was poured into the shutter to cast a level surface onto which the “bio dome” was secured. The internal falls were designed to prevent the ponding of acidic solutions within the encapsulated tank. The internal surface of the tanks were primed with MasterTop P660, sand-blinded with F1 filler. After 24 hours, the internal concrete surface was sprayed with MasterSeal M 689 rapid-setting, chemically resistant polyurea coating to a thickness of 1.5 mm in one coat. The coating was applied to a height of 3 metres, from the top of the tank to approximately 1 metre below the minimum fill level in service.

The customer’s benefit

- MasterEmaco N 5200 rapid-setting mortar enabled the re-profiled surface to be sufficiently cured within 7 days to receive the coating.
- The combination of MasterTop P660 primer and MasterSeal M 689 coating ensured a rapid installation and return to service of the applied coating.

Project facts at a glance

- Concrete repair and coating of two primary settlement tanks.
- Re-profiled surface sufficiently cured within 7 days thanks to MasterEmaco N 5200 rapid-setting mortar.
- Rapid installation and return to service of the applied coating thanks to the combination of MasterTop P660 primer and MasterSeal M 689 coating.

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group’s expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:
www.master-builders-solutions.com

Project

Hogsmill Sewage Treatment Works

Location

London

Owner/s:

Thames Water

Applicator/Contractor:

GBM Alliance

Designer/Architect/Specifier:

Montgomery Watson Harza

Market sector:

Water Management Industry

Products used:

MasterEmaco N 5200
MasterEmaco S 5450 PG
MasterTop P660
MasterSeal M 689





Mars Petcare

Waterproofing a water storage tank

The background

Mars Petcare, required an elastic coating, approved for contact with potable water to waterproof a reinforced concrete water storage tank.

The challenge

The contract required the removal of all existing contamination back to sound concrete. The coating was to be approved under Regulation 31, for use with potable water and be chemically resistant to protect the concrete. The coating was to be applied by spray, to return the tank to service within the short work programme.

Our solution

The concrete surface was ground to remove all contaminants. The concrete was primed with one coat of MasterTop P 617 epoxy primer. Due to the height of the tank, the chosen method of application of MasterSeal M 808 was by spray, in one pass.

The customer's benefit

- MasterSeal M 808, Regulation 31 approved coating for use in contact with potable water
- MasterSeal M 808 provided a chemically resistant, elastic coating.
- Application by spray enabled the tank to be coated in a single operation; reducing the application time and returning the tank to service within the short work programme.

Project facts at a glance

- Waterproofing a reinforced concrete water tank
- Removal of existing contamination
- Regulation 31 approved chemically resistant coating applied
- Master Builders Solutions supplied products to prime and coat the tank

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:
www.master-builders-solutions.com

Project

Mars Petcare

Location

Melton Mowbray
(United Kingdom)

Owner/s:

Mars Petcare

Applicator/Contractor:

Ancorite Surface Protection Ltd

Market sector:

Water Management Industry

Products used:

MasterTop P 617
MasterSeal M 808





Palmersford Sewage Treatment Work

Refurbishment of 3 Primary Settlement Tanks

The background

Wessex Water required a chemically resistant, elastic coating to protect 3 concrete settlement tanks which had been the subject of long term chemical attack by waste water effluent.

The challenge

The contract required the removal of all existing contamination back to sound concrete. A moisture tolerant primer was required to enable a rapid overcoating of the concrete as there was limited possession time. The coating was to be approved under Regulation 31, for use with potable water and be chemically resistant to protect the concrete from further attack.

Our solution

The concrete surface was treated with high-pressure water to removal all contaminants. The surface dry concrete was primed with one coat of Ucrete PSC moisture tolerant primer and two coats of MasterSeal M 808 elastic polyurethane coating; applied by brush, squeegee and roller.

The customer's benefit

- Ucrete PSC moisture tolerant primer enabled the MasterSeal M 808 topcoat to be applied without delay, reducing the overall application time by several days from preparation to commissioning.
- MasterSeal M 808 , Regulation 31 approved coating for use in contact with potable water
- MasterSeal M 808 provided a chemically resistant, elastic coating to accommodate the seasonal thermal movement caused by its external location

Project facts at a glance

- Sewage Treatment Works servicing Southampton
- Removal of existing contamination
- Regulation 31 approved chemically resistant coating applied
- Master Builders Solutions supplied products to, prime and coat tanks

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:

www.master-builders-solutions.com

Project

Palmersford Sewage Treatment Works

Location

Southampton (United Kingdom)

Owner/s:

Wessex Water

Applicator/Contractor:

Southern Concrete Services Ltd

Designer/Architect/Specifier:

Wessex Water

Market sector:

Water Management Industry

Products used:

Ucrete PSC

MasterSeal M 808





Wells Sewage Treatment Works

Application of a chemically resistant coating to sewage tanks

The background

The aeration tanks and anaerobic sludge digesters at Wells Sewage Treatment Works in Somerset required waterproofing prior to the upcoming Glastonbury Festival, for which it services the facilities.

The challenge

The contract required the removal of all existing contamination back to sound brickwork before applying a fast-setting mortar to patch and point the brickwork. The coating system to be used needed to resist an acidic environment and a further constraint was the limited possession time.

Our solution

The brickwork surface was treated with high-pressure water to removal all contaminants prior to repairs and repointing using MasterSeal 590 rapid-setting mortar. The dry brick substrate was primed with one coat of MasterTop P 660 rapid-setting polyurethane primer and a topcoat comprised of two coats of MasterSeal M 336 flexible epoxy polyurethane coating was applied by brush and roller.

The customer's benefit

- The use of MasterSeal 590 allowed the repairs to be primed after one day.
- MasterTop P 660 rapid setting polyurethane primer enabled the MasterSeal M 336 topcoat to be applied without delay, reducing the overall application time by several days from preparation to commissioning.
- MasterSeal M 336 provided chemical resistance with the flexibility to accommodate the seasonal thermal fluctuations caused by its external location.

Project facts at a glance

- Treatment works servicing Glastonbury Festival
- Removal of existing contamination and repairs to brickwork
- Master Builders Solutions supplied products to repair, prime and coat tanks

Master Builders Solutions by MBCC Group

The Master Builders Solutions brand expresses MBCC Group's expertise in providing customized chemical solutions for new construction, maintenance, repair and restoration of structures.

Master Builders Solutions is built on the experience gained from more than a century in the construction industry. At the core of the Master Builders Solutions brand is the combined know-how and experience of a global community of construction experts, who connect with you to solve all of your construction challenges.

Further information is available at:

www.master-builders-solutions.com

Project

Wells Sewage Treatment Works

Location

Glastonbury

Owner/s:

Wessex Water

Applicator/Contractor:

Southern Concrete Services Ltd

Designer/Architect/Specifier:

Wessex Water

Market sector:

Water Management Industry

Products used:

MasterSeal 590

MasterTop P 660

MasterSeal M 336



This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal grey lines across its entire width, providing a guide for handwriting or typing. The paper itself is a clean, off-white color.[illegible]



Notes

[illegible]

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





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

MasterEase

Low viscosity for high performance concrete

MasterEmaco

Solutions for concrete repair

MasterFinish

Solutions for formwork treatment and surface improvement

MasterFlow

Solutions for precision grouting

MasterFiber

Comprehensive solutions for fiber reinforced concrete

MasterGlenium

Solutions for high performance concrete

MasterInject

Solutions for concrete injection

MasterKure

Solutions for concrete curing

MasterLife

Solutions for enhanced durability

MasterMatrix

Advanced rheology control for concrete

MasterPel

Solutions for hydrophobization, anti-efflorescence and surface protection

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

MasterSphere

Solutions for guaranteed freeze-thaw resistance

MasterSuna

Solutions for sand and gravel in concrete

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



QUANTIFIED SUSTAINABLE BENEFITS ADVANCED CHEMISTRY BY MASTER BUILDERS SOLUTIONS

Let the numbers do the talking: We have portrayed some of our most eco-efficient product solutions for concrete and precast production, construction, civil engineering, and flooring.

sustainability.master-builders-solutions.com



Master Builders Solutions UK Ltd

Head Office:

Swinton Hall Road, Swinton,
Manchester, M27 4EU
T: +44 (0) 161 727 6300

www.master-builders-solutions.com

Master Builders Solutions UK Ltd

Redditch Office:

19 Broad Ground Road, Lakeside,
Redditch, Worcestershire B98 8YP
T +44 (0)1527 512 255

www.master-builders-solutions.com

The data contained in this publication are based on our current knowledge and experience. They do not constitute the agreed contractual quality of the product and, in view of the many factors that may affect processing and application of our products, do not relieve processors from carrying out their own investigations and tests. The agreed contractual quality of the product at the time of transfer of risk is based solely on the data in the specification data sheet. Any descriptions, drawings, photographs, data, proportions, weights, etc. given in this publication may change without prior information. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed (02/2021).