

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

Sales Contact:

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Knapp Mill Water Treatment Works, Christchurch Refurbishment of Filter Beds



Our reference in Christchurch, Dorset (United Kingdom): Knapp Mill Water Treatment Works

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.

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Knapp Mill Water Treatment Works

Refurbishment of Filter Beds



Our reference in Christchurch, Dorset (United Kingdom): Knapp Mill Water Treatment Works

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.

Projects 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 from BASF

The Master Builders Solutions brand brings all of BASF's expertise together to create chemical solutions for the 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 solutions.

Further information is available at:

www.master-builders-solutions.basf.co.uk