

Project:

Digester refurbishment

Location:

Kidderminster

Owner/s:

Severn Trent

Applicator/Contractor:

GTS

Market sector:

Wastewater Industry

Products used:

MasterSeal 7000 CR based on Xolutec technology comprising:
MasterSeal P 770 Primer
MasterSeal M 790 Topcoat
MasterSeal 930 bandage
MasterSeal 933 adhesive
MasterEmaco N 5200
MasterTop SBR 570

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Digester Refurbishment, Kidderminster

Protection of concrete in the gas zone and over banding of internal joints



Our reference in Kidderminster (United Kingdom): Digester refurbishment

The background

As part of a planned maintenance programme, the existing protective coating and waterproof bandage systems were inspected.

The challenge

The internal coating in the gas zone of the digester together with the waterproof bandages were identified to be replaced. The exposed concrete in the gas zone required a flexible protective coating that would be resistant to biogenic sulphuric acid attack.

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Digester Refurbishment, Kidderminster

Protection of concrete in the gas zone and over banding of internal joints



Our reference in Kidderminster (United Kingdom): Digester refurbishment

Our solution

The concrete surface below the gas zone was treated with a high-pressure water to remove the long-term build-up of deposits.

The existing coating in the gas zone was mechanically removed and the concrete surface lightly grit blasted to remove all contamination.

The concrete surface in the gas zone was primed with 2 coats of MasterSeal P 770 primer followed by 3 coats of MasterSeal M 790 topcoat in grey; applied over consecutive days, by roller.

MasterSeal 930 bandage and MasterSeal 933 adhesive were applied at the termination points of the coating; both at soffit level and below the low water level of the gas zone.

The existing bandages on all levels below the water line were replaced with MasterSeal 930 bandage and MasterSeal 933 adhesive.

The surface below the gas zone was treated with a diluted solution of MasterTop SBR 570 to seal microcracks in the concrete.

MasterEmaco N 5200 was used to repair sections of failed concrete on the external walls of the digester.

The customer's benefit

- MasterSeal 770 primer can be applied onto a solid, surface dry but damp; concrete or repair mortar.
- MasterSeal 790 will resist biogenic sulphuric acid attack whilst remaining flexible to accommodate future movement or vibration from the transfer of wastewater.
- MasterSeal 930 bandage and MasterSeal 933 adhesive can be returned to service in 3 days at $\geq 14^{\circ}\text{C}$ and 10 days at $\geq 7^{\circ}\text{C}$ concrete surface temperature.
- MasterSeal 933 adhesive is moisture tolerant and can be applied to damp but surface dry concrete substrates.
- MasterSeal 933 is easy to mix and apply even at low ambient temperatures.
- MasterSeal 930 bandage is stocked in 100mm, 200mm and 300mm widths and can be supplied in larger widths upon request.

Projects facts at a glance

- Digester in Kidderminster
- Protecting concrete in the gas zone subject to biogenic sulphuric acid attack
- Xolutec technology
- Moisture tolerant Primer and Topcoat applied; resistant to biogenic sulphuric acid attack
- Waterproofing all internal joints

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Further information is available at:
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