

Project:
Sewage Treatment Works

Location:
London

Owner/s:
Thames Water

Applicator/Contractor:
GBM Alliance

Market sector:
Wastewater Industry

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

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Sewage Treatment Works, London

Refurbishment of Primary Settlement Tanks



Our reference in London (United Kingdom): Sewage Treatment Works

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.

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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.

Projects 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.

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