

Project:

Repair of anaerobic treatment sedimentation tank at the Harmanec Wastewater Treatment Plant (WWTP)

Location:

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Project completed:

2017

Owner/s:

SHP Harmanec a.s., SHP Group

Applicator/Contractor:

TESTECO s.r.o.

Designer/Architect/Specifier:

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Market sector:

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Products used & amounts:

MasterSeal 7000 CR

Anaerobic-treatment Sedimentation Tank at Harmanec WWTP Tank Refurbishment and Waterproofing



Tank refurbishment and waterproofing

The background

The project entailed the refurbishment of a tank used to treat technology wastewater that contains paper fibers and has a pH of 5.5 to 6.5 and a maximum temperature of 50°C. The refurbishment, which had a set timeframe of approximately two weeks, comprised the decommissioning and cleaning of the tank, removal of loose parts, and leveling of uneven surfaces at the bottom, which itself included a new slope profile, application of a final protective coat, and recommissioning of the tank once it had cured.

This was a challenging and time-limited task that could only be accomplished thanks to the new developed Xolutedc™ technology in the MasterSeal 7000 CR WWTP protection system.

The challenge

In the short downtime available, the damaged sections of the bottom of the tank had to be removed, the surface repaired, a new slope profile created, and a waterproofing layer resistant to wear and the conditions at the WWTP applied.

Contact:

Master Builders Solutions
Slovakia spol. s r.o.,
Na stanici 937/26b,
010 09 Žilina

Tf. č.: +421 41 7631 483
Fax: +421 41 7631 484
info.sk@mbcc-group.com

Anaerobic-treatment Sedimentation Tank at Harmanec WWTP Tank

Refurbishment and Waterproofing



Tank refurbishment and waterproofing

Our solution

To complete the task and develop the strength and necessary load resistance of the final layers quickly, we based our comprehensive solution on fast-curing materials.

The customer's benefit

The client benefited from the new Xolutec™ technology in particular, as it ensured that work phases were carried out in rapid succession with prompt loading of the substrate and recommissioning of the tank, while providing multiple unique properties in a single material.

The most prominent characteristic allows the MasterSeal 7000 CR system to be applied to a damp base with no need to monitor residual substrate moisture. Other special properties include high flexibility combined with extreme chemical and superior mechanical resistance, while the use of two different colors enables the material's operating resistance to be monitored and the future recoating frequency to be set.

Projects facts at a glance

The project—which included the initial cleaning and recommissioning of the tank—was implemented in a short time frame in the summer and took just 14 days to complete. This brief window placed extreme demands on not only the mix of materials used, but also on the contractor's expertise and craftsmanship. The client appreciated the adherence to process specifications and the work schedule, which saw the project delivered on time.

Systems used:

- **MasterEmaco T 1100 TIX** - quick-setting, fast-curing, high strength, thixotropic renovating mortar with nanotechnology-based shrinkage compensation, intended for the repair of concrete traffic surfaces.
- **MasterSeal P 385** - epoxy-cement-based penetration and leveling coat for surfaces with over 4% dampness underneath MasterSeal/MasterTop epoxy and polyurethane seals and flooring materials as a moisture barrier

- **MasterSeal P 770** - two-component bonding primer based on Xolutec™ technology. It penetrates the substrate well and acts as a bonding bridge for subsequent systems, such as MasterSeal 7000 CR. Cures quickly even in low temperatures, which shortens the application time so that operations can be resumed sooner. The technology is not sensitive to humidity and is durable in a wide range of conditions.
- **MasterSeal M 790** - two-component, crack-bridging membrane based on Xolutec™ technology with high chemical resistance for the waterproofing and protection of concrete structures in harsh conditions. The only material on the market to combine several exceptional properties of a typical waterproofing membrane in a single product. It offers clients and applicators high value and an exceptional degree of security, even when projects are complex and short on time. As part of the MasterSeal 7000 CR system, it combines properties such as crack-bridging ability (even at low temperatures), high chemical and mechanical resistance, substrate moisture tolerance, quick-curing characteristics, and fast and simple application, either by hand or spray-application

Master Builders Solutions by MBCC Group

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.

Further information is available at:

<https://www.master-builders-solutions.com/sk-sk>