



Helsingborg (S) Potable water tank lining

Country	Sweden
Type	Water Tower Rehabilitation
Client	NSVA (Nordvästra Skånes vatten och avlopp AB)
Main Contractor	NCC Infrastructure
Execution of the work	Renesco GmbH
Designer/ Engineering	Wingård architects
Construction Period	2021-2022

Project Description

The new water tower was built to secure future water distribution in north-west Skånea and has a pioneering design like a modern aqueduct. Helsingborg's existing water tower in Fredriksdal, built in 1962, will remain in use even once the new water tower is operational. In addition to the water tower itself, the assignment also includes two service reservoirs and a technical building. The water tower is 40 meters high and consists of a reservoir in a ring (outer and inner tank), holding 7'000 cubic meters of water on top of 24 pillars in a circle with a diameter of 90 meters.

The waterproofing system that are permanent in direct contact with potable water must fulfil stringent requirements regarding hygiene, durability, exposure, and stress conditions. Also, the construction method & sequence itself, in addition to the application technology and material's welding behaviour are essential in view to the total cost management and watertightness.

Structural waterproofing of reservoirs and tanks containing potable waters, sealed with a polyethylene (PE) waterproofing geomembrane/ geo-composite under a water pressure head, fully exposed to the inside water face. Approximately 8'500m² FPO-PE geomembrane, reinforced and laminated with a 500g/sqm PP geotextile, 1.5mm and 1.8mm, drinking (potable) water certified according to DVGW W 270 (German guideline), drainage mat, polypropylene (PP), 6mm and inlet & outlet pipe connections, pipe penetration, DN 500 via loose-steel flange termination/ clamping.

Scope of Service

Rehabilitation of the structural waterproofing for the inner & outer tank:

- Full surface & seam inspection via spark testing (electrical high voltage), vacuum and mechanical (hook) testing.
- Partly replacement of the existing waterproofing membrane, seams, and fixations
- Additional extrusion seaming/ welding
- Loose-laid steel clamping/ flanging
- Watertight test



1. Floor on the upper level
2. Tank inside
3. Loose-flange connection