

PROJECT WWTW TANK REPAIRS



Following a non-destructive testing (NDT) survey at a WWTW, it was identified that major concrete repairs were required to five tanks, to ensure the plant could remain in use. However, the works could only be undertaken during a full plant closure.

Chemical attack had caused severe erosion to the substrate, with a loss of coverage recorded as low as 60mm in some areas. A survey was completed to assess the full extent of the damage to the tanks, using both intrusive and non-destructive testing techniques, which included; impulse radar, dynamic impedance and targeted coring. As the plant remained fully operational at this stage, manned entry was avoided, the investigation was conducted externally using accessible surfaces of the tanks.

Once the testing stage was complete, all core holes were filled using a fast setting repair mortar. Samples were sent out for external testing and during this time scaffolding was erected for the works to begin.

High-pressure water jetting was used on all surfaces, to remove any loose material and debris build up from the walls and soffit. An adhesive repair mortar was then applied to the surfaces, in 15-20mm stages, providing a chemical resistant and water tolerant coating. Once cured, two coats of epoxy resin were applied for additional resistance against future chemical attack.

Due to extremely wet and stormy weather conditions, the team were faced with several challenges whilst on site, as the works took all rainwater and effluent water from a 4-mile radius. New pumps were installed to by-pass the works but quite often there was too much ingress and the teams had to evacuate. This process was supported by a robust safe system of work.

Additional challenges included the storage of specialist materials where the IFU states materials must be stored at a specific temperature, 24-hour heaters were installed on a thermostat to insure temperature levels did not drop.

From the start, the completion date was extremely tight due to client restrictions and licenses, the works had to be done quickly and if the programme wasn't met, the client would have received substantial fines. We were pleased to hand the works back in line with the schedule and after testing and inspection the tanks were fully operational and put back into service by the client.