



Case Study

Asset Refurbishment

Oxford Sewage Treatment Works
Thames Water

Before



After



The Project

Adler and Allan have recently completed the refurbishment of Sludge Digester 1 at Oxford Sewage Treatment Works. The Digester is a critical asset used to process waste and produce energy on site and a critical feature of the work undertaken was to minimise disruption to process whilst extending the life of the asset by a further ten years.

The roof of the Digester had become badly worn over its current life cycle and there was evidence of surface cracking that if untreated could have potentially compromised the containment of methane produced as part of the digestion process.

The Solution

Adler & Allan's solution was to coat the roof area and surrounds with their specialist polyurea Adalline 400 lining to provide robust and resilient refurbishment. Adalline 400 is a high tensile, high elongation, high build, fast-set elastomer. It is specifically formulated to provide a tenacious bond to surfaces, providing a cost effective, flexible, tough, resilient monolithic membrane with water and chemical resistance. Adalline 400 is an excellent choice of elastomer to topcoat structures for protection, primary containment and extension of asset life.

To enable works, Adler & Allan liaised closely with Thames Water operations and subcontract parties to establish safe working access. This involved the provision of scaffolding to access the work site which was within a controlled area and the installation of bypass pipework to minimise pressure within the digester during preparation and coating. Once safe access had been established, work was undertaken in four stages.

- The roof and surrounds of the digester were shot blasted to remove contaminants and prepare the surface for coating.
- Cracks and visible defects were then repaired using conventional civils techniques.
- Once the areas had been satisfactorily repaired, they were treated with a Stainguard primer to maximise adhesion, with existing assets sealed using a Rallithane jointing compound to soften profiles.
- Finally, a 2mm coating of Adalline 400 polyurea coating was applied across the treated area. Subsequent to coating, all surface areas were validated using a dielectric testing method to provide a 100% fully warranted containment solution.



The Outcome

The lining has extended the life of the digester by a minimum of 10 years at a fraction of the cost of replacement or a traditional civils remediation that would have necessitated lengthy operational downtime. The quick setting properties of Adalline 400 allowed the work to take place with minimal operational disruption and a full return to service was achieved within 24 hours. Ongoing co-operation and liaison throughout the three week project period ensured that all deliverables were met safely, efficiently and on time.

"The project has been highly successful and A&A have undertaken a very professional cost effective job. For future such work I would be happy for Adler & Allan to tender for projects." Thames Water Project Engineer