



CASE
STUDY

Triflex

Delivering solutions together.

WATERPROOFING AND PROTECTION

DOMED WATER STORAGE TANK ROOF REFURBISHMENT

Authorised Contractor:
Concrete Repairs Ltd (CRL)

Systems
Triflex ProTect®
Triflex ProDetail®

Area
2,500m²

📞 01785 819119

🌐 triflex.co.uk

✉ info@triflex.co.uk

 Triflex (UK) Ltd

Triflex (UK) Ltd. | Whitebridge Way | Stone | Staffordshire | ST15 8JS v1.30.07.24

Introduction

Two above ground water tanks form this distribution service reservoir. Built in 1980, the circular water storage tanks have domed concrete roofs. As part of a repair and refurbishment project the roofs required a removal of the existing roof covering and the installation of a new waterproofing membrane.





The challenge

The 49m diameter domed roofs had an existing unknown coating around the flatter perimeter of the dome, which originally may have helped demarcate an access path. This perimeter coating was showing signs of deterioration and delamination, with its condition making it difficult to assess whether this had originally had an anti-skid surface to increase safety of staff gaining access to the tank. Surface drainage ports are also located in the perimeter upstands. Many coatings are not hydrolysis resistant, meaning they can break down in water, as may have been the case here.

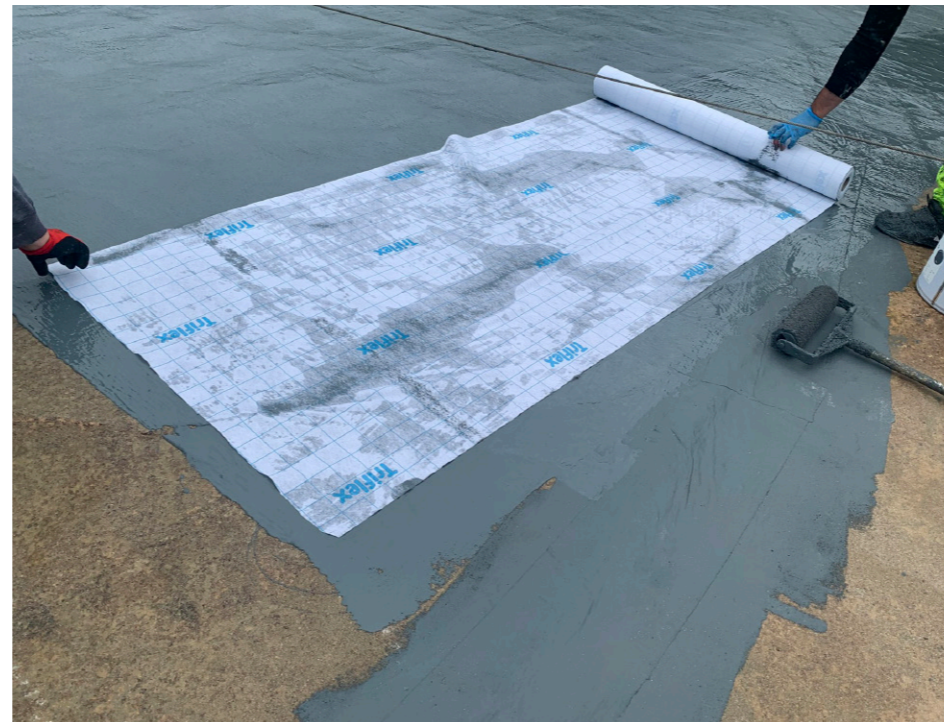
In addition there was evidence of an existing black coating around the access hatches, and also some evidence of cracking which required attention. Following repair works by Triflex authorised contractor CRL, which included hatch re-bedding, circumferential sealant joint replacement, sealing of cable entry points and drainage renewal, a waterproofing, surfacing and protection roof covering system was required that could meet a 20-year design life.

The solution

Triflex worked closely with CRL to assess the existing substrates and provide a bespoke project specification that met the 20 year design life. The Triflex Technical team carried out a range of testing which included cohesion strength and adhesion tests on the uncoated and coated areas of the concrete roof. The results of which determined the most appropriate preparation, priming and waterproofing solution.

The proposed waterproofing system was Triflex ProTect which has proven adherence to a wide range of substrates, including those often perceived as difficult to bond to. The system utilises Triflex reinforced PMMA resin technology, and incorporates Triflex ProDetail for outstanding waterproofing of all details such as flashings, upstands and penetrations.

Cohesive and adhesive strength testing revealed that Triflex ProTect adhered well to the existing unknown perimeter coating. However, it was found that the existing coating was not bonded sufficiently well to the concrete substrate to be confident with an overlay solution. It was therefore recommended to remove the existing perimeter coating, and install the new system directly on the concrete substrate. Here the Triflex ProTect waterproofing system with embedded anti-skid beads was chosen to provide a fully bonded walkway solution. Provision of a colour variant further helped demarcate areas for maintenance access.





The solution

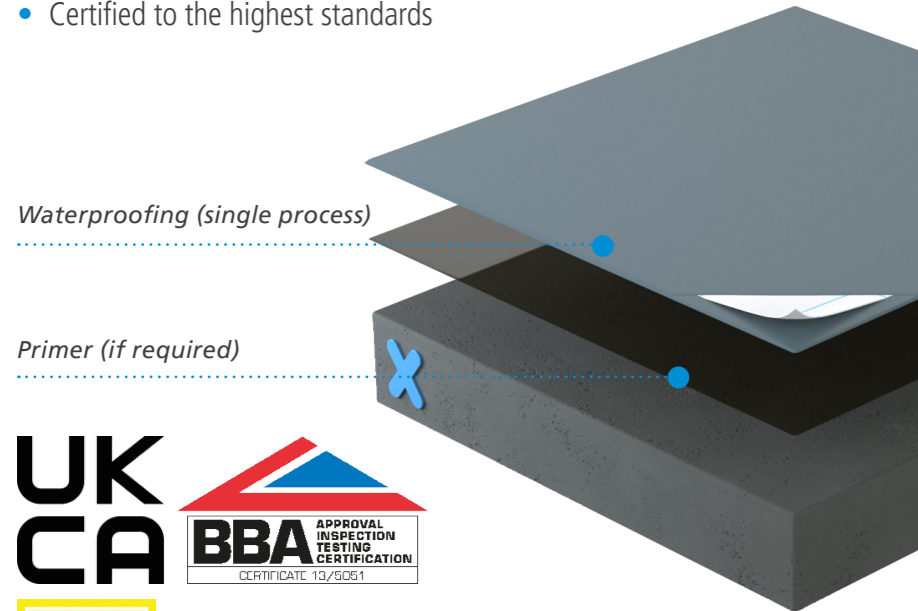
The on-site tests also showed that the Triflex system bonded strongly to the unknown black coating surrounding the hatching areas, validating the use of Triflex ProDetail as an overlay solution in these areas. The reinforced system provides tough and durable waterproofing that easily accommodates many awkward forms.

The uncoated area of the central dome simply required cleaning by jet washing prior to priming and installation of the reinforced Triflex ProTect system. Any cracks were first over banded using the high tensile strength reinforcement fleece. The Triflex ProTect reinforced system is certified to EN 1504-2: B4.2 (-20°C) for dynamic crack bridging, delivering long term peace of mind. Due to the slope of the roof, the application of the liquid waterproofing membrane on the dome was facilitated by the use of a small addition of liquid thixo agent. This provided a thicker medium to work with during the installation of the system, ensuring an even application without slumping.

Even with the addition of the liquid thixo agent, the Triflex ProTect system still retains its rapid curing properties, meaning that it is rainproof in 30 minutes and fully cured in an hour. All works were carried out to a high standard by Triflex authorised contractor CRL Ltd.

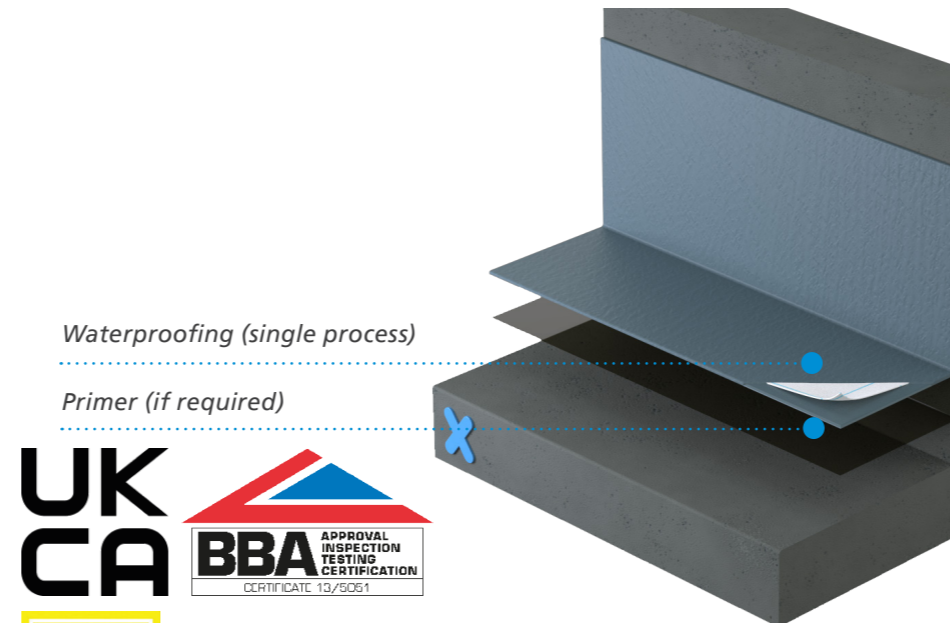
System benefits Triflex ProTect®

- Totally cold applied, with no risk from hot works
- Compatible with virtually all roof substrates
- Suitable for all roof build-ups and applications
- Exceptionally rapid curing / rainproof times, even at low temperatures
- Dynamic crack bridging, fully reinforced waterproofing ensures that high levels of movement and cracking can be accommodated
- Suitable for zero pitch, completely flat and pitched roofs
- Simple, single process waterproofing application, rapidly installed
- Hydrolysis (standing and ponding water) resistant
- Designed for foot traffic and provides exceptional puncture resistance
- Certified to the highest standards



System benefits Triflex ProDetail®

- Waterproof down to the smallest detail
- Totally cold applied, with no risk from hot works
- Compatible with virtually all roof substrates
- Exceptionally rapid curing / rainproof times, even at low temperatures
- Fully reinforced waterproofing technology
- Simple, single process waterproofing application, rapidly installed
- Certified to the highest standards



Triflex

Delivering solutions together.

Triflex is the leading European specialist in cold liquid applied waterproofing, surfacing and marking resins. Our high-quality systems provide reliable and lasting waterproofing, surfacing, protection and markings for roofs, walkways, balconies, terraces, car parks, roads and infrastructure, including the water industry

We are a family owned and operated company that provides tailored solutions worldwide. From our production facilities based in Minden, Germany, we have been researching and developing solutions designed to protect and repair the built environment for more than 40 years.

From our UK and Ireland headquarters based in Stone, Staffordshire we pride ourselves on providing our clients with tailored solutions and exceptional levels of service and support throughout all stages of their project. From conducting in-depth site surveys to our comprehensive testing and off-site and on-site support, Triflex delivers the highest standards.

Triflex solutions are certified to the highest standards, ensuring peace of mind for years to come.

☎ 01785 819119 🌐 triflex.co.uk ✉ info@triflex.co.uk

Triflex (UK) Ltd