



Triflex

Delivering solutions together.

WARM ROOFTOP PLAY AREA REFURBISHMENT
NOTTINGHAM

WALTER HALLS PRIMARY SCHOOL

CASE
STUDY

Authorised Contractor:
NRA Roofing and Flooring
Services Ltd

Systems
Triflex ProTerra® Insulated
Triflex ProDetail®
Triflex ProFibre

Area
425m²

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Introduction

Walter Halls Primary School, Nottingham has a dedicated “Early years” building set in the grounds of the wider primary school estate. The structure is an unusual 16 sided shape that is set into a hillside. With one side level with the landscaping, a wooden deck installed on top of the roof created a rooftop play area for the primary school in the past.

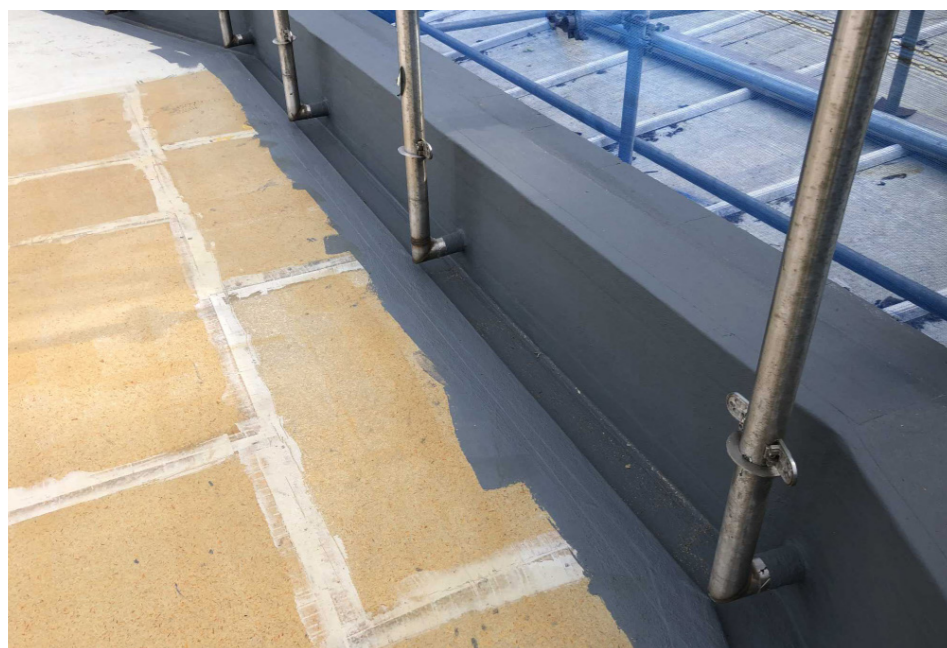


The challenge

After extensive leaking, the single ply warm roof required replacement to create a watertight building and robust play area for the children. The wooden decking area had been removed in the past to facilitate patch repair of the single ply membrane, closing off the play area until the issues could be resolved. In addition, there were failures in the waterproofing of the retaining wall details at the roof deck level.

Located at the rear of the school estate, access to this school building is difficult. With no direct road and surrounding landscaping, all materials required transporting across a playing field by forklift truck.





The solution

Triflex working together with Triflex authorised contractor NRA Roofing and Flooring Ltd carried out an in-depth assessment of the existing roof build-up. The existing single ply warm roof had evidence of multiple patch repairs and ponding water. A leak detection test performed by NRA Roofing highlighted that the existing single ply membrane had multiple punctures. Core sampling was undertaken by Triflex field technicians to assess the state of the existing roof insulation. Whilst Triflex systems can be used to overlay single ply systems, in this case the underlying warm roof insulation was sodden and an alternative solution was the best way forward.

Triflex produced a specification proposal for the Triflex ProTerra insulated system following removal of the existing build-up to the underlying concrete deck. The system consists of a fully reinforced cold liquid applied waterproofing membrane with a warm roof build-up and a surface finish robust enough to withstand the rigours of pedestrian traffic. With an impact resistant topping below and an anti-skid quartz finish, playtime will not compromise the building's watertightness now and for years to come.

The hexadecagon form of the roof meant that the tapered insulation scheme required careful consideration. The design of the tapered scheme ensured that the falls were as required to improve the drainage of the roof and provide a safe surface for pedestrians. The PIR insulation ranged from 120mm to 260mm in thickness, with a 1:60 fall to deliver a system U value of 0.18 W/m²K.

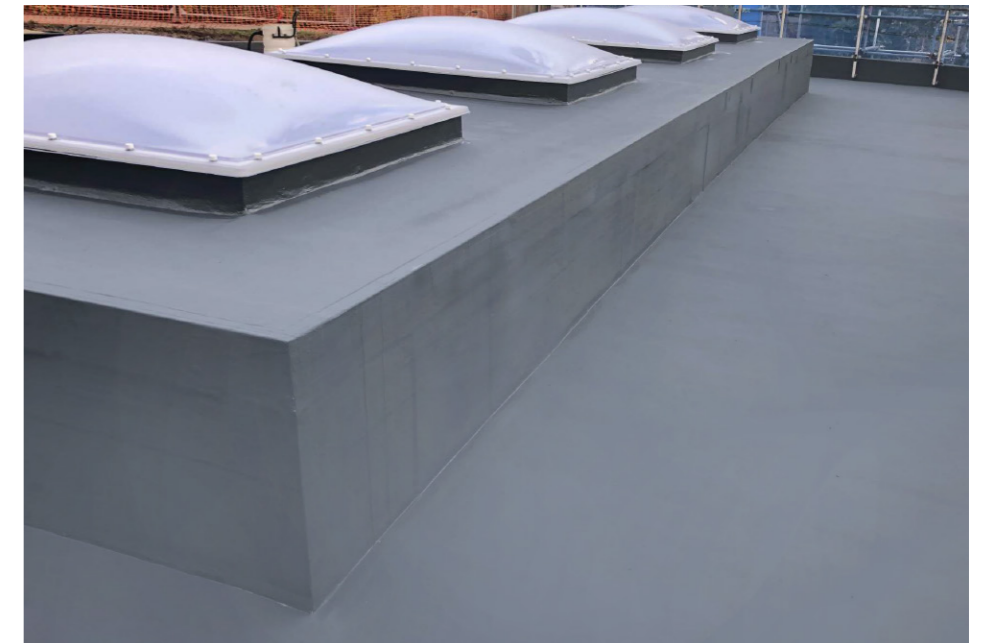
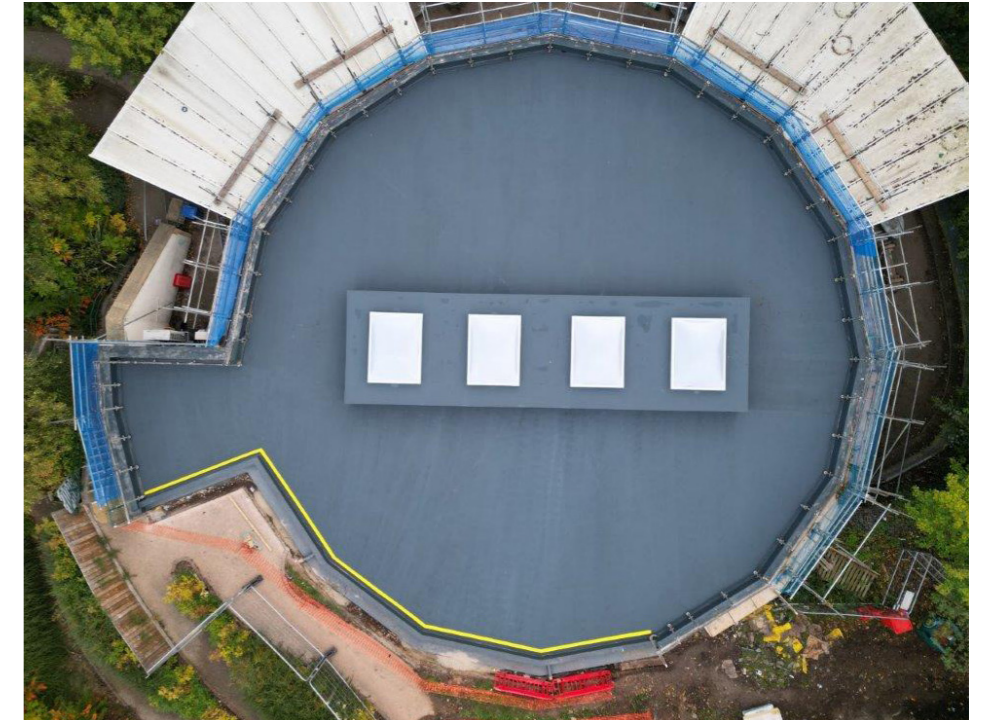
The unique shape and relatively small working area meant a highly organised approach to the tapered insulation. The diligence of the implementation of the tapered scheme on such a tricky roof meant that the impact resistant substrate of the build-up, the Triflex Amroc board, was easy to install to the designed layout.

The solution

The tongue and groove detailed Amroc board was efficiently laid with minimal cuts on top of the insulation. The Amroc board edges were sealed with Triflex PMMA cryl paste that set within minutes. This was then followed by the reinforced Triflex ProTerra cold liquid applied waterproofing. The PMMA resin based flexible and hydrolysis resistant system was completed with a wearing and protection layer, finished with small grain 0.4-0.8mm quartz. With PTV values between 58 and 62, this delivers an anti-skid surface that is easily cleaned and maintained.

The reinforced Triflex ProDetail system was specified for waterproofing details and upstands. The rooflight area had previously been created using glass blocks which had leaked into the building below. The glass blocks were removed and a series of standard UVPC rooflights were installed as a replacement. The Triflex ProDetail seamless liquid waterproofing system was continued over the rooflight housing providing a watertight structure. For the very small details such as around the balustrade fixings, the Triflex ProFibre waterproofing was used. This thixotropic PMMA resin based system has reinforcing fibres within the liquid which can be applied with a brush. The reinforced waterproofing proving perfect for the really hard to reach areas. Where the building fits into the hillside, the soil was excavated back past the level of the roof deck. The Triflex system was continued over the tanking onto the concrete retaining wall to ensure the detail was fully sealed. The system is inherently root and rhizome resistant, with the back filled bank posing no future difficulties for the FLL certified waterproofing system.

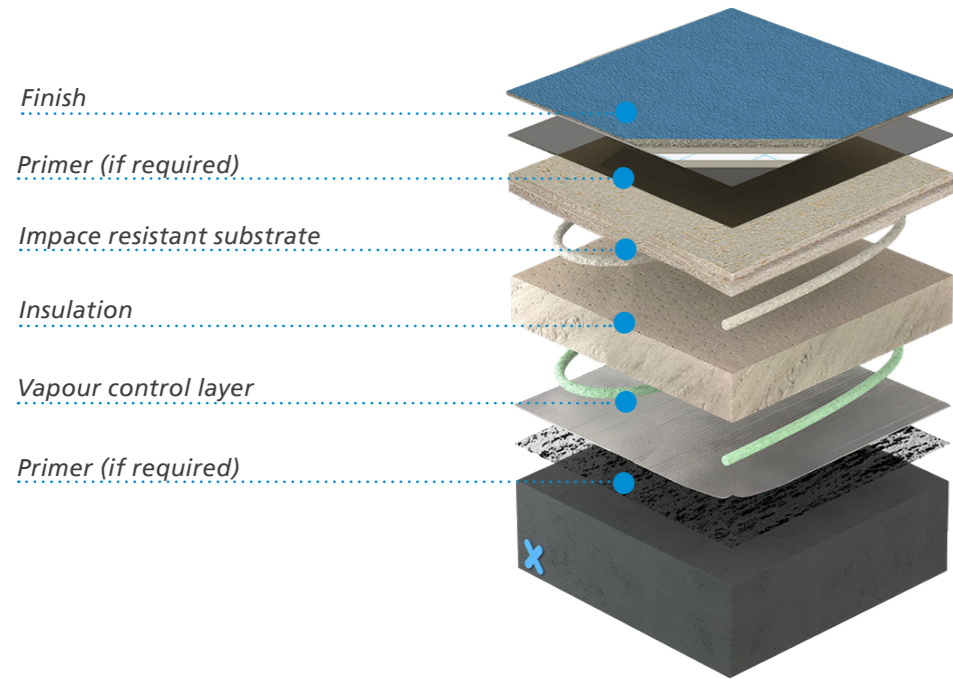
The experience and skill of the 3-man team from Triflex Authorised Contractor NRA Roofing and Flooring Ltd delivered the installation to a high standard. Triflex further supported the team with on site and off site technical advice to deliver a bespoke robust warm roof solution to this distinctive building. The now watertight structure provides an appropriate environment for learning with the finish delivering an aesthetic in keeping with the uniquely designed building. The play area is now an inviting space with no ponding and an antiskid surface, delivering a safe rooftop play area.



System benefits

Triflex ProTerra[®] Insulated

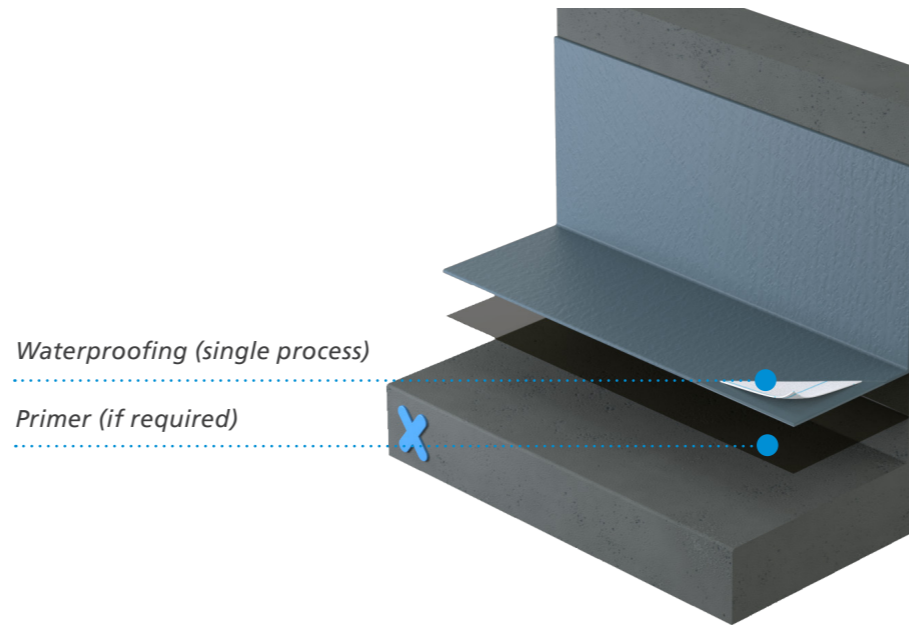
- Totally cold applied, with no risk from hot works
- Maximises insulation values, reducing heat loss and increasing energy efficiency
- Unaffected by ponding water, resistant to chlorides and carbon dioxide ingress
- Exceptionally rapid curing / rainproof times, even at low temperatures
- Fully reinforced waterproofing technology
- Available in four surface finishes
- Simple, single process waterproofing application
- Solvent, isocyanate and plasticiser free



System benefits

Triflex ProDetail[®]

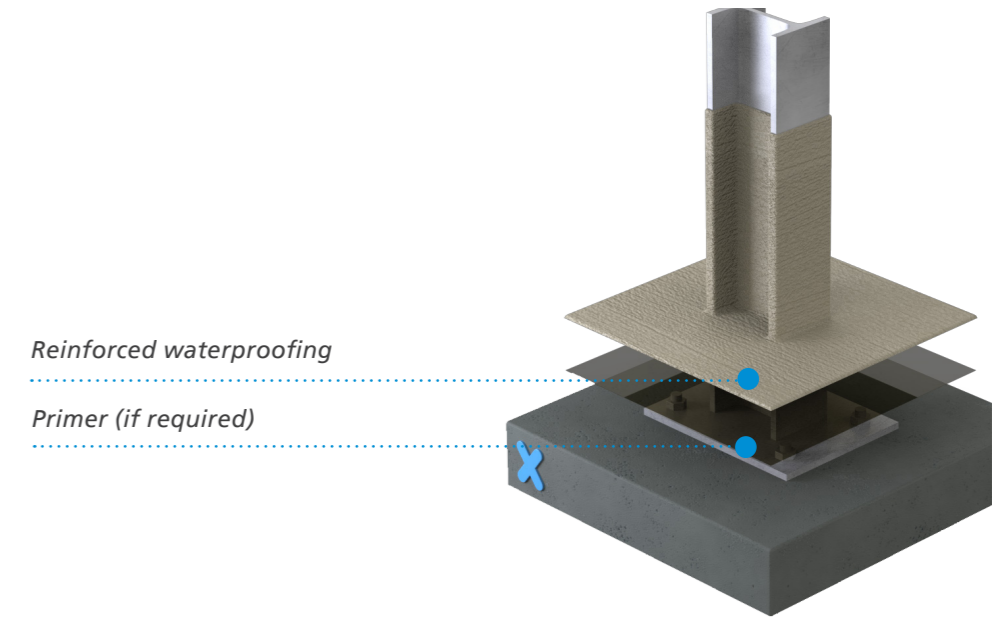
- Waterproof down to the smallest detail
- Compatible with virtually all substrates including asphalt
- Cold applied, fast curing with rapid installation
- Simple, single process waterproofing application
- Rapid curing system - even at low temperatures
- Fully reinforced technology
- Certified to the highest standards
- Designed for foot traffic and provides exceptional puncture resistance



System benefits

Triflex ProFibre

- Waterproof down to the smallest detail
- Compatible with virtually all substrates including asphalt
- Cold applied, fast curing with rapid installation
- Simple, single process waterproofing application
- Rapid curing system - even at low temperatures
- Fibre reinforced technology
- Simple and easy to apply





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.

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, we ensure that your project is completed on time, expertly. Triflex solutions are certified to the highest standards and are backed up by long-term meaningful warranties, ensuring peace of mind for years to come.



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