



# CASE STUDY

# Triflex

Delivering solutions together.

INDUSTRIAL FLOOR REFURBISHMENT  
HOLGATE ENGINEERING WORKS, YORK

## NETWORK RAIL

### Authorised Contractors:

Orchard Roofing & Building Ltd  
Mike Thelwell Flooring Ltd

### Systems

Triflex DeckDefence ECO

### Area

27,000m<sup>2</sup>

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# Introduction

At 24 acres, Network Rail's largest maintenance depot is situated in Holgate, in York. Built by the North Eastern Railway in 1880 as a railway carriage manufacturing factory, the integrated buildings each housed separate processes of the production. These brick constructed buildings with cast iron columns and wrought iron beams have changed little externally in the 200 years since. Today, they are part of the massive 12 acre maintenance complex. Here, Network Rail houses equipment, workshops, sidings cranes and switches. Specialist trains are prepared, maintained and serviced in the facility.

Network Rail working with Colt Construction Ltd and Orchard Roofing & Building Ltd, required refurbishment and upgrade of the Victorian brick built sheds to gain an additional 30 year lifespan. Works included drainage, roofing, ventilation, heating and alarms, and taking the walls back to brickwork as well as a hard wearing industrial grade floor. Triflex provided expertise and specification for a heavy-duty Industrial floor capable of withstanding the rigours of weighty equipment for years to come.





# The challenge

The flooring of the existing buildings comprised of either bare concrete, or largely, concrete that had previously been coated. Areas of the coating had become worn and delaminated, leaving the exposed concrete unprotected.

Operationally used to undertake heavy industrial activities relating to the maintenance of trains, the sheds house various heavy plant equipment. This includes large forklift trucks and cherry pickers of typically 15-20 tonnes trafficking the surface. The concrete slabs also have embedded rails within the structure for movement of trains and machinery across the work areas. This meant that some areas of the concrete slabs were identified as being contaminated with oils, chemicals and rubber tyre markings, built up over decades of use.

Network rail required refurbishment of the industrial floor, with a capability to withstand the rigours of the heavy industrial machinery and trains. In addition, a high level of slip resistance (high PTV) and robust demarcation, capable of performing well under heavy vehicular access, was a must. A fully tested and certified system installed with minimum disruption to site operations was essential for the large, busy engineering works

# The solution

Originally developed for the high traffic and demands of the car park, the Triflex DeckDefence Eco is tough, durable and offers high levels of chemical and mechanical resistance. Ideally suited for protection of concrete, the system comprises of a self-priming waterproof coating layer with a rapid curing PMMA finish.

The existing concrete floor was assessed by Triflex experienced Technicians. Full adhesion testing, sample installations and anti-skid tests were completed in trial areas. The primary 6m x 6m sized sample area enabled Triflex with Mike Thelwell Flooring Ltd to ascertain the preparation, adhesion, and appropriate finish of the Triflex system to the concrete substrate. With this heavy industrial application, Network Rail also wanted to assess the anti-skid properties of different quartz sizes in situ. The sample areas were subjected to six weeks of traffic, giving reassurance to Network Rail of the inherent properties of the Triflex Industrial flooring system proposed. Following the trials, the Triflex DeckDefence Eco was specified, with a 0.4-0.8mm Triflex Quartz for appropriate levels of slip resistance and cleaning capability.

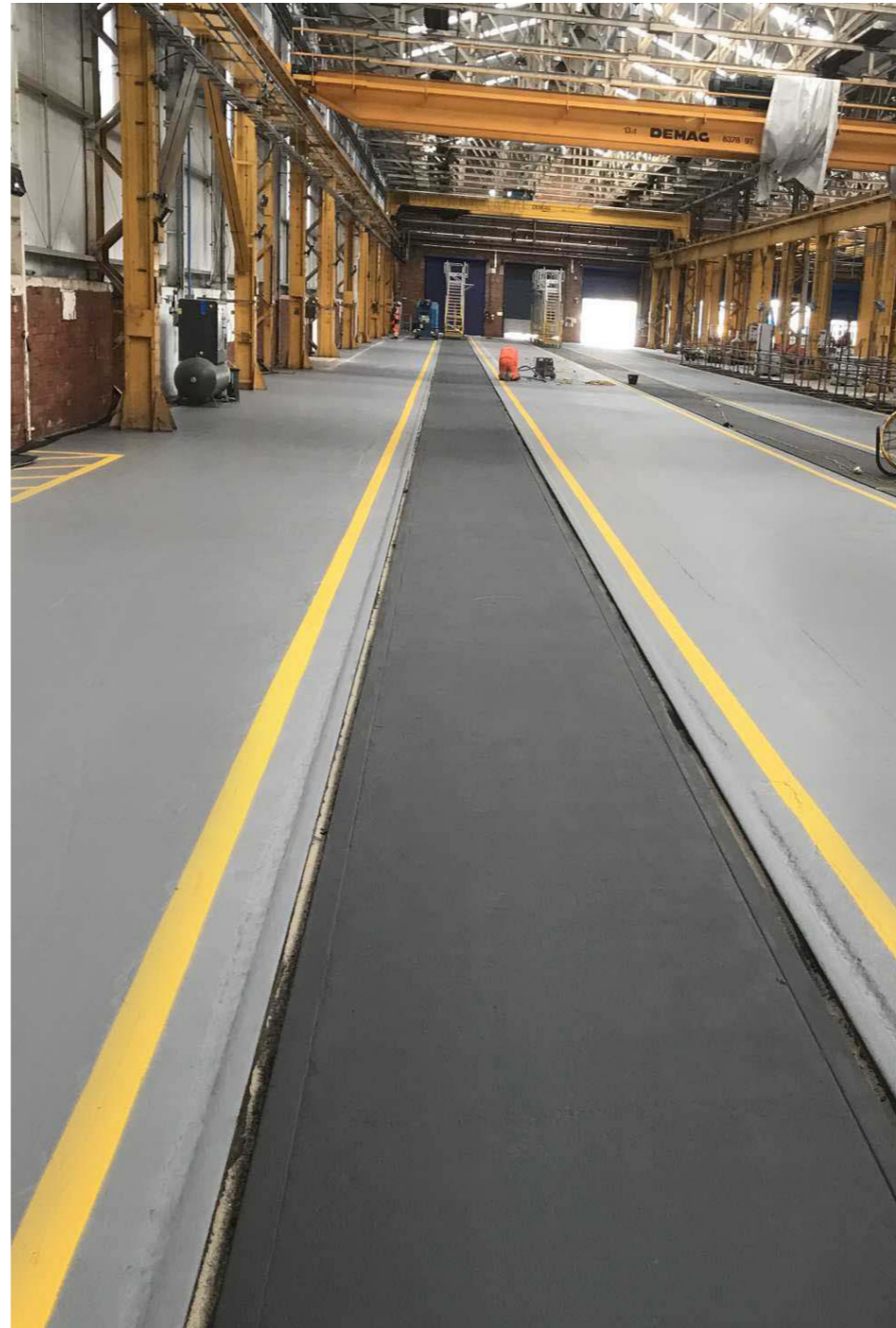
Some repairs to the concrete were undertaken which included a number of areas where a new slab was cast. In addition, levelling, filling of cracks and voids was achieved using Triflex repair mortars. The Triflex PMMA based mortars rapidly cure within an hour, meaning that the demanding schedule was readily achieved.



“We found working with Triflex a really good experience. Along the way changes were made to what the client wanted or required and back up was good from Triflex as the project progressed.

Triflex authorised contractor, Mike Thelwell Flooring Ltd, were conscientious, clean workers and nothing too much trouble for them. The team of installers were second to none. Also, there were no problems with deliveries which was great, particularly as we were in a pandemic, and the construction industry is suffering from shortages.”

Les Warren, Project Manager, Orchard Roofing & Building Ltd



# The solution

Following preparation by enclosed shot blasting to remove contamination from the concrete substrate, the Triflex DeckDefence Eco protective coating system was installed. The simple two stage application provided a cost effective and rapid programme of works. The Triflex DeckDefence Eco system includes a self-priming protective coating layer which cured in around 12 hours, with the PMMA Cryl Finish 209 curing within an hour. Available in a wide range of colours, the chosen finish was Slate grey, with Dusty grey colour wayfinding areas.

The completed interior is refurbished to a standard that best shows off the Victorian design, with clean brickwork and flooring upstands providing an improved aesthetic, as well as an environment fit for the 21st century activities.

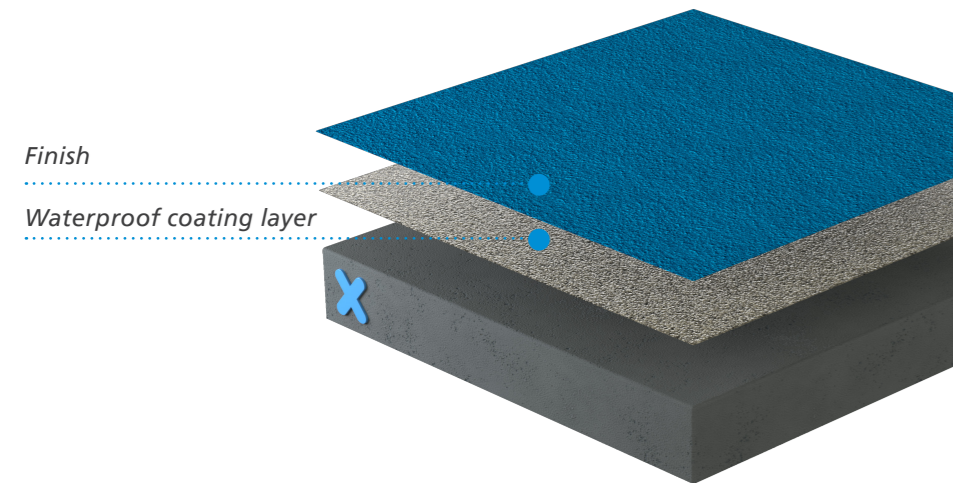
As the Triflex system is resistant to petrol, diesel, brake fluid, engine oil, battery acid, and de-icing and cleaning products, the heavy-duty industrial floor will be robust and resilient throughout its lifetime.

Triflex work closely with authorised contractors to provide high levels of technical support and assistance. The project at Holgate engineering works was supported at regular intervals throughout the programme of works, and was installed to the highest standards by Mike Thelwell Flooring Ltd. Network Rail were able to rapidly resume operations in the busy engineering works.

## System benefits

# Triflex DeckDefence Eco

- Cost effective with fast installation
- Available in 3 variants specifically engineered to deal with a wide range of substrates
- Optional locally reinforced, elastomeric waterproofing membrane
- Tough and durable protection
- Totally cold applied system
- High levels of long term skid resistance
- Available in a wide range of standard and bespoke colours and finishes



# 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.

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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